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Edited by John Donovan,
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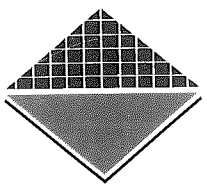

AUSTRALIAN INSTITUTE OF
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Contents

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1 Executive summary

This review of the health status and needs of migrant Australians was commissioned as part of the National Agenda for a Multicultural Australia. It is also a response to the 1988 National Ethnic Health Policy Conference, in that it provides a database for the Conference's recommendation for 'urgent development of a national policy, plan and resource base for Ethnic Health'.

The ultimate impact of these policies is shown by comparisons of the health of immigrant groups with those born in Australia. How such comparisons in future times differ from those today will be of particular interest (Chapter 2).

Defining membership of an ethnic community is not easy. Depending on the context, members of ethnic communities may be so regarded because they share characteristics such as geographic origin, language, religion, customs or a sense of distinctiveness. Specific ethnic groups form small proportions of the population. Collecting information from adequate numbers of any group may require studies focused on that group; such studies are difficult because groups do not always live in single communities, and findings can be hard to interpret because of internal diversity in ethnic communities.

An alternative approach is to extract information on ethnic group members participating in large-scale surveys. However, the only indicators of ethnicity which are usually collected in these large surveys are country of birth and language spoken at home, and sometimes length of residence in Australia. A third source of statistical information is routine statistical collections, in which country of birth is usually the only indicator of ethnicity (Chapter 3).

Other simple measures of ethnicity such as self-assessed ancestry or more complex ones taking into account, for example, the birthplace, language and religion of parents are used in demography but not in Australian health data collections.

The latest (1986) Census data show that 20.8 per cent of Australia's population was born overseas, and 11.6 per cent in countries where English was not the main language. Source countries have changed over time so that demographic characteristics of birthplace groups, particularly their duration of residence and their age structure, vary widely.

The socioeconomic status of birthplace groups also varies widely. Although there is a perceived concentration of ethnic groups in unskilled labouring jobs, in fact there is great variation with birthplace in the proportions in these occupations. The proportions with post-school qualifications, and income levels, are just as diverse. On some measures certain immigrant groups are better off than the Australian-born.

Lack of proficiency in spoken English poses special problems in provision of and access to health and welfare services. The 1986 Census showed that 9.2 per cent of Australian residents aged 5 years and over did not speak English well, and 1.8 per cent did not speak it at all. Ethnic women are more disadvantaged in this way than are men, and some with little or no English are elderly and unlikely ever to learn it (Chapter 4).

Most ethnic groups have lower, and in many cases significantly lower, total mortality than the Australian population as a whole. These findings apply across all age groups studied (15–74 years). Ethnic group mortality has been decreasing in parallel with that of the Australian-born.

For some birthplace groups, the level of mortality increases with longer duration of residence. This should be interpreted with care because those migrating at one time period may differ from those migrating at another period. Almost all birthplace populations in Australia experience lower mortality than in their countries of origin.

People who apply to migrate to another country may be among the healthier members of their original societies. Certainly migration to Australia depends on a successful application, and the likelihood of that is lower for applicants with existing health problems. The lower mortality of migrant groups probably partly results from these two factors. There has also been speculation that once in Australia, the sick are more likely to return to their country of origin, but there are no data relating to this. Neither is there any information on mortality of children of migrant parents.

Each country of birth group has its own cause of death profile which is related to the profile of causes in that country. Some of the major immigrant groups with the lowest levels of mortality are also those with the lowest socioeconomic status (Chapter 5).

Age standardised hospital separation ratios for country of birth were calculated from hospital utilisation data for New South Wales for 1986. The Australian-born have the highest separation ratios for all non-obstetric causes combined. Separation ratios were also examined for some major disease groups; most ratios relating to the overseas-born were lower than those for the Australian-born, and in many cases substantially lower (Chapter 6).

The 1989–90 National Health Survey collected interview data on about 57,000 persons, or about 1 in every 300 Australia residents. Topics in the long interview which were regarded as most relevant were selected for study. The first group of these related to women's health: whether those interviewed had had a breast examination or examined their own breasts, and their knowledge or experience of a mammogram; whether they had had a hysterectomy; and their use of oral contraception. Knowledge relating to cancer screening was limited in some groups, and participation in it was correspondingly low. Some groups with low levels of effective contraception had higher than average numbers of children.

The next group of topics related to use of services. A history of recent hospital admissions was studied in relation to country of birth, the language in which the interview was conducted, and duration of residence. Recent use of medical and other services, absence from work, recent accidents, and use of common medications were similarly examined. So were the lifestyle factors of exercise habits, alcohol consumption and smoking, and a history of obesity and the more prevalent chronic diseases.

These findings were, where relevant, related to the findings presented elsewhere in the report. There was an interesting contradiction that most Southern European populations rate poorly on lifestyle factors, yet they also have the lowest mortality among the groups studied. There are also birthplace differences between the level of reported illness in relation to the level of mortality from that condition. Some findings may be explained by the heterogeneity of the health outcomes studied and by differing perceptions of illness in the birthplace groups (Chapter 7).

Over 9,000 Australians were examined in the 1989 Risk Factor Prevalence Survey conducted by the National Heart Foundation. This survey collected information on biomedical risk factors for coronary heart disease, such as blood pressure, plasma lipid levels, and weight for height, as well as lifestyle behaviours.

Analysis of the data from this survey and from the 1989–90 National Health Survey showed that immigrants generally have a better risk factor profile than the

Australian-born population with regard to blood pressure, hypertension, total cholesterol levels and alcohol consumption, but not with regard to exercise. The overall differences with regard to smoking and being overweight were small, but there was marked variation among countries of birth.

Because of the considerable change in the birthplace composition of immigrants arriving during the last decade compared with earlier years, the risk factor levels observed for migrants who have been in Australia for less than 10 years and for those who have been here for more than 10 years cannot be taken as an indication of a cohort trend or of a convergence to the Australian norm. The recent arrivals include a much higher proportion of Asian immigrants and a lower proportion of British and other European immigrants compared with the composition of the migrant stream before the late 1970s. Therefore the changes observed between recent arrivals and longer established settlers are probably due more to birthplace differences than to a convergence to the Australian-born experience. This is particularly evident in the figures relating to body mass index (Chapter 8).

Differentials in disability by country of birth were investigated using the 1988 Survey of Disabled and Aged Persons. This interview survey covered all self-reported disabilities from the very minor (e.g. visual defects corrected by wearing glasses) to the most severe. It also covered the degrees of handicap and social disadvantage resulting from these disabilities.

Disability and handicap are defined in a physical sense, but they also have a social context not easily assessed in interview surveys. Interpretation of self-reported disability and handicap in different cultural groups is discussed (Chapter 9).

After adjustment for age differences, disability was most frequently reported by those born in Greece. All other major migrant groups reported less disability than the Australian-born. For immigrants from both all English-speaking countries grouped and all other countries grouped, reported disability was more frequent in those resident in Australia for more than 15 years than for those resident for less than 15 years.

Findings on prevalence of all handicaps were generally similar to those for disability. However, severe handicap was reported much more frequently by those from Greece, Italy and Yugoslavia than by the Australian-born.

Information on private health insurance has been obtained from the 1989–90 National Health Survey and from the 1990 Health Insurance Survey. Some immigrant groups had coverage levels similar to the Australian-born; others had very much lower levels. The coverage level for some source countries differed greatly from that for other countries in the same region. The coverage levels were usually lower among persons from non-English-speaking countries. Reasons for being insured did not vary greatly among ethnic groups.

Having private health insurance is more frequent among longer-settled immigrants. It is also most frequent at ages 45 to 54 years in most ethnic groups. There are some groups where coverage is particularly low at ages 65 and over. Single persons with dependants are the least likely to be insured. Coverage is low among unemployed immigrants, and generally increases with income, except for a fall-off among the highest earners.

With the exception of those from New Zealand, where the relationship is more complex, immigrants reporting the most favourable perceptions of their own health are the most likely to have private health insurance (Chapter 10).

2 Background to the project

2.1 National Agenda for a Multicultural Australia

This report on the health of immigrant Australians has been produced under the auspices of the National Agenda for a Multicultural Australia, announced by the Prime Minister in July 1989 (Office of Multicultural Affairs 1989).

Multiculturalism provides a policy framework for all Australians, irrespective of their ethnic or religious background, their cultural heritage, or their linguistic tradition, to exercise their rights and obligations as full and equal members of society.

The eight goals of multiculturalism in Australia are:

1. All Australians should have a commitment to Australia and share responsibility for furthering our national interests.
2. All Australians should be able to enjoy the basic right of freedom from discrimination on the basis of race, ethnicity, religion or culture.
3. All Australians should enjoy equal life chances and have equitable access to and an equitable share of the resources which Governments manage on behalf of the community.
4. All Australians should have the opportunity to fully participate in society and in the decisions which directly affect them.
5. All Australians should be able to develop and make use of their potential for Australia's economic and social development.
6. All Australians should have the opportunity to acquire and develop proficiency in English and languages other than English, and to develop cross-cultural understanding.
7. All Australians should be able to develop and share their cultural heritage.
8. Australian institutions should acknowledge, reflect and respond to the cultural diversity of the Australian community.

As part of the social justice dimension of the National Agenda, the Government introduced a range of initiatives, including some with a focus on health and community services. The former Community Services and Health portfolio undertook a number of initiatives aimed at identifying and addressing barriers of language and culture which may limit access to services. As part of this, the (then) Australian Institute of Health was commissioned to undertake a major study of the health status and needs of migrant Australians.

2.2 Access and Equity Strategy

Access and Equity forms a fundamental part of the Government's Social Justice Strategy, and was introduced in 1985. The Access and Equity Strategy was strengthened and extended in 1989 in the National Agenda for a Multicultural Australia.

The Access and Equity Strategy aims to ensure that the resources which governments manage on behalf of the community are made equally available to all Australians. All

residents of Australia, regardless of their race, culture, language, or religion, should have fair access to and a fair share of the mainstream services which governments provide to the whole community. Among the areas included for special attention are health, initial settlement in Australia, community welfare programs, care of children and the aged, social security benefits, education, and employment and training.

The Office of Multicultural Affairs (OMA) has identified factors influencing the development of the Access and Equity Strategy. These include the diversity of the health needs of Australians from non-English-speaking backgrounds and the effects of language barriers on their access to health care.

The ultimate impact of multicultural policies will in part be measured by comparisons of health among ethnic groups, and between ethnic groups and the native-born. How the results of future comparisons differ from those of today will be of particular interest.

Special attention has therefore been given in the implementation of the Access and Equity Strategy to the collection of statistical information such as birthplace, main language spoken, and other indicators of ethnicity so that the effectiveness of government programs and services in meeting the needs of immigrants and their families can be measured and assessed.

2.3 National Ethnic Health Policy Conference

The National Ethnic Health Policy Conference was held in Adelaide from 12 to 15 April 1988. The conference included workshops on the more important aspects of migrant health: career structures for ethnic health workers; recognition and accreditation of overseas health qualifications; the health needs of rural migrants; the voluntary sector; drugs, alcohol and ethnic communities; mental health of ethnic communities; occupational health and safety; migrant women's health; health services for the ethnic aged; health promotion and ethnic communities; disability and ethnicity; education of health professionals; and health services for new arrivals to Australia (DCSH & OMA 1989).

There were two underlying themes to all these topics—communication, and research and data collection. Several priorities for research were identified in order to make policy recommendations for the health component of the National Agenda for a Multicultural Australia.

The conference issued a communiqué containing a number of resolutions. Those relevant to ethnic health statistics included support of retention of ethnicity data in the Census. There was concern over the failure of the Women's Health Policy to address the needs of women of non-English-speaking background, and similar concern about the development of health advancement policy. Since then, the National Non-English Speaking Background Women's Health Strategy, which complements the National Women's Health Policy, has been published (Alcorso & Schofield 1991).

One of the most important recommendations of the Conference was the 'urgent development of a national policy, plan and resource base for Ethnic Health, consistent with goals, principles and strategies outlined in the Health For All Australians document, presented at the WHO Healthy Public Policy Conference'. It was suggested that one means of achieving such aims was the establishment of a comprehensive and meaningful data base, with greater emphasis to be placed on research relevant to the health needs of ethnic communities.

The health status data on immigrant Australians presented in this report is in part a response to the conference. Its publication represents part achievement of the aims expressed by the conference participants.

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3 Rationale of the contents

3.1 Why data on ethnic health?

Data on ethnic health are required to monitor the multicultural nature of Australia, for example, by study of trends in the health of ethnic populations and thus in needs for, and access to health services.

3.2 Measures of ethnicity

Ethnicity is a complex and abstract concept. Despite many attempts to measure it, there is no single widely accepted definition used in data collection and analysis.

People have been regarded as members of specific ethnic communities because they share some common characteristics. These have included sharing one or more of the dimensions of geographic origin, language, religion, customs or a sense of distinctiveness. The grouping process is essentially subjective and may not yield consistent collections of statistics on the description, size and distribution of ethnic groups in a population. As a consequence, the size of the different ethnic communities has been estimated rather than accurately known.

In Australia, measures of ethnicity have traditionally been based on the country of birth or some related aspect, for example, the language mostly used at home. Since birthplace is not always an adequate descriptor of cultural difference, generation is sometimes used as a measure of ethnic origin. However, although migrants can easily be treated as a potentially different group from persons born in Australia, there is a problem in attributing differences to the Australian-born children of these migrants, even when they can be identified in statistical collections. For example, after controlling for possible confounders such as social class and education, it might be difficult to assess cultural or life-style differences in the Australian-born children of Egyptian or Dutch or Vietnamese migrants. For second and later generations the identification and attribution are even more difficult.

From studies of country of birth of the overseas born and of the parents of the Australian-born, Price (1989) has developed the concept of 'ethnic strength' of the population. This concept is further explained in Chapter 4.

Self identification is increasingly being used as a method of associating individuals with their ethnicity. This method would yield different results from a 'country of birth' approach. For example, the 1986 Census asked 'What is each person's ancestry?', and defined ancestry as 'the ethnic or national group from which you are descended'. 'Australia' was an allowable answer. This approach is used in part of Chapter 4 of this report. However, apart from the identification of persons of Aboriginal ethnicity, it has not been widely adopted for most national data collections, which are still more likely to use country of birth to define ethnicity.

It should be noted that the term 'Yugoslavia' has been used to cover what is now recognised as the Federal Republic of Yugoslavia and the independent States of Croatia and Slovenia.

3.3 Choice of ethnic groups for analysis

As mentioned above, 'country of birth' has been the characteristic of choice when attempting to differentiate among ethnic groups in Australia. Most of the databases analysed for the production of this report used this characteristic to differentiate among ethnic groups. Wherever possible, ethnic groups have been identified using the guidelines set by the Australian Bureau of Statistics.

When ethnicity was differentiated by country of birth (for example, Egypt, Greece, Italy, UK and Ireland, Vietnam, etc.), the reference category was all Australian-born persons.

When ethnicity was defined according to whether English was the main language spoken in the country of birth of the individual, individuals were grouped into those born in Australia (used as the reference category), those born in other English-speaking countries and those born in non-English-speaking countries. Sometimes a contrast is attempted among overseas-born persons only. In that case, the reference category was all persons born in countries overseas where English is the main language spoken.

The strict confidentiality laws under which the Australian Bureau of Statistics operates also influenced the data made available for analysis. The number of ethnic groups was sometimes reduced to avert the possibility, even if remote, of individuals being identified because of small numbers. This means that different groupings became necessary during the analyses of the various databases.

The major single limitation on the presentation of a picture of the health of the different ethnic groups is the lack of data, as the only available data have been obtained from small sample surveys. Powles and Gifford (1990) have argued that analyses of the different ethnic groups classified as English-speaking background (ESB) and non-English-speaking backgrounds (NESB) are simplistic because these do not constitute homogeneous groups. A better picture would be obtained by focusing on specific ethnic groups. However, as they also point out:

> '...[the] problem with this approach is that specific ethnic groups may comprise a relatively small proportion of the total population: the only birthplace groups to exceed 1 per cent of the population are those from the United Kingdom and Ireland (7.2 per cent), Italy (1.7 per cent) and New Zealand (1.4 per cent). The diversity of the overseas-born population, the low numbers within specific groups and the fact that they do not always reside in specific ethnic communities are all factors leading to difficulties in obtaining study populations that are both sufficiently large and representative. In practice, the only studies that are well equipped to achieve this are those that use population-based data—either from comprehensive data collections (such as death registrations) or from large-scale probability samples.' (p. 79)

Therefore, the collections used for the analyses presented in this report were chosen because of their large scale.

3.4 Collections used in the analysis

In Australia, the Registrars of Births, Deaths and Marriages in the various States and Territories are responsible for the registration of deaths. Their interest in this information gathering is primarily a legal one. They, however, also collect basic demographic and social information such as sex, age, country of birth, occupation, marital status and place of residence of all deceased persons. The Registrars then pass this information to the Australian Bureau of Statistics for coding, tabulation, and publication.

Further perspectives on the differences in the health profiles was obtained through the analysis of some other databases. The following criteria were used in the selection of databases to be analysed:

- national collections which included a substantial amount of data on many different ethnic groups were given preference;
- the most recent data available were used wherever possible.

The selected databases included:

- *ABS 1989–90 National Health Survey*—This nationwide survey, the first in a new series to be conducted every five years by ABS, provides information about the self-assessed health status of Australians, their use of and needs for health services and facilities.
- *National Heart Foundation 1989 Risk Factor Prevalence Survey*—This survey aimed at identifying the prevalence and level of the risk factors for heart disease among Australians. It was conducted among persons aged 20 to 69 years residing in State and Territory capital cities.
- *ABS 1988 Survey of Ageing and Disabled Persons*—This nationwide probability sample survey aimed to address the important issues of disability status and care required by and provided for aged and handicapped persons living in private homes.
- *1986 NSW Hospitalisation database*—In the absence of national information on the diagnoses of patients at discharge from hospital, the data from New South Wales were used to provide a description of the medical reasons for admission to hospitals.

3.5 Limitations of the data

Lack of adequate data has meant that several areas of health status were not addressed in this report. A notable example was the mental health of immigrant Australians.

A major limitation in the use of the databases was that they were not designed specifically to obtain information on the various ethnic groups in Australia. For example, the analysis of death statistics appears simple, since death is an easily definable and certain event. However, studies throughout the world have shown that the collection of accurate data is difficult and that the quality of the data varies between and within countries and for different variables. The demographic and social information is sometimes less than perfect because informants lack the necessary knowledge of the deceased, for example the age or the date of birth, the country of birth or the date of arrival in Australia.

In an earlier work, the Australian Institute of Health analysed the mortality experience of Australians for various characteristics including country of birth (Lee et al. 1987). The variation in mortality by country of birth was greater than that for other characteristics examined. That analysis compared the overall mortality experience of Australians by region/country of birth. The analysis presented here focuses on a larger number of regions/countries and various causes of death. The increased disaggregation of the statistics means that the variability of the estimates will be more pronounced. This needs to be taken into account in comparisons.

The picture on morbidity differentials was restricted by the absence of a national morbidity database. There is, however, a project currently underway that has been set up

to analyse the hospital morbidity data from all Australian States with respect to ethnicity. This project is being undertaken by the Australian National University (National Centre for Epidemiology and Population Health) in collaboration with the Australian Institute of Health and Welfare. The findings are expected to be available in 1992.

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4 Australia's heterogeneous immigrant population: a review of demographic and socioeconomic characteristics

Christabel Young

4.1 Introduction

Before the detailed discussion of the ethnic health status of immigrants, it is important to briefly summarise post-war migration to Australia, the birthplace and ethnic composition of the population, and the demographic and socioeconomic characteristics of each birthplace in Australia.

During the post-war years the proportion of the population in Australia with an overseas birthplace has increased and the birthplace composition of the population has changed quite considerably, due to the high levels of immigration and the increasingly wide range of source countries of immigrants. Between 1947 and 1986, the overseas-born component increased from 9.8% to 20.8% of the total Australian population. At the 1986 Census 55.7% of the overseas-born were from countries where English is not the main language, this group thus representing 11.6% of the total population (see Table 4.1).

Prior to the post-war period the major part of immigration to Australia was from the British Isles, with peaks during the past 100 years in the 1880s, 1910–13, and the 1920s, and troughs around the turn of the century, during the First World War, and during the 1930s and early 1940s. In the years since the Second World War peaks in net migration occurred during the late 1940s and early 1950s, during the second half of the 1960s, and during the early and late 1980s. During the post-war years until the mid-1970s the British constituted the major component of the net migrant intake, but their proportion has become progressively smaller, being near 50% during the 1950s and 1960s, falling to 25% in the late 1970s and to 20% in the mid-1980s (Australian Bureau of Statistics 1990).

During the post-war years other birthplace groups emerged as major components of the migration stream. Initially there was a high proportion from Europe, but its share declined rapidly after the mid-1970s. At this point the initial small component from Asia increased rapidly, and rather smaller increases also occurred in the share of New Zealanders and those from other regions, including Africa (see Figure 4.1). In more detail, during the 1947–51 period the migration stream included large numbers of displaced persons from Eastern Europe, particularly Poles. During 1951–61 about one-third of the net migration was from Southern Europe, especially from Italy and also from Greece, and just over one-quarter was from Northern Europe, including large intakes from Germany and the Netherlands. During 1961–66 nearly one-third was from Southern Europe, including Greece and Italy, with smaller numbers from Malta. During 1966–71, there was an increase in the numbers from Eastern Europe, largely resulting from greater numbers leaving Yugoslavia. There was also continuing emigration from Southern and Northern Europe. Also at this time there was an increased intake from the Middle East, particularly the quasi-refugees from Lebanon, and from Asia and New Zealand.

The early 1970s saw a decline in the component from Europe, and an increase in the component from Asia, including large numbers of Indo-Chinese refugees, and substantial numbers from Lebanon and Turkey. The continuing low migration period of 1976–80 was characterised by an increase in the Asian component, and an increase in the contribution from New Zealand. New source countries also included South Africa, Central and South America and the Pacific Islands. The 1980s has seen a rapid increase in the level of annual net migration, reaching the highest peak ever of 171,700 in 1988, and the emergence of several major new source countries of immigrants to Australia, including the Philippines, Malaysia and Hong Kong, with a continuing high intake from Vietnam. Immigration to Australia from New Zealand has also remained high (Price 1981; Australian Bureau of Statistics 1990).

4.2 The size of each ethnic group in Australia

Due to the very wide range of source countries of immigrants, there are more than 100 different birthplace groups in Australia, but with each representing a relatively small proportion of the total population. The largest immigrant groups are listed in Table 4.2 which shows that, apart from the Australian-born, only eight birthplace groups represented more than 0.5% of the total population, while another 25 represented between 0.1% and 0.5% of the total. Although those from the British Isles and Ireland are still the largest overseas-born group (7.2% of the total population), some of the long-established European groups have relatively large populations, notably the Italians (1.7%), Yugoslavs (1.0%), Greeks (0.9%) Germans (0.7%), Dutch (0.6%) and Poles (0.4%) while there are also relatively large populations in some of the birthplace groups from the new source countries, notably, Vietnamese (0.5%), Lebanese (0.4%), Indians (0.3%) and Malaysians (0.3%).

For some purposes it is useful to know the composition of the population in terms of ethnic background instead of birthplace, and figures compiled by Price (1989) show this information. From a careful analysis of demographic data, including births in Australia according to birthplace of parents, he has been able to construct a table of the ethnic composition, including a measure of 'ethnic strength' of the population in Australia. The 'ethnic strength' measure counts each person only once, and incorporates fractions of origin for people with mixed origin. An advantage of the 'ethnic strength' measure is that the sum of all of its items adds to the total population of Australia (see Table 4.3). In many cases ethnic origin is the same as birthplace, but in some cases this is not so. Accordingly, Price has allocated persons with a given birthplace to their correct ethnic group, from information relating to language, religion and birthplace of parents. He has also allocated the Australian-born children to the appropriate ethnic groups. For example, children born in Australia with two overseas-born parents are allocated to that ethnic group, while those with a mixed parentage, for example, with a Greek father and an Anglo-Celtic mother, are allocated one-half to each ethnic background. This sharing is also carried out with more complex ethnic backgrounds. Among several birthplace groups there has been a large extent of intermarriage with Australian-born persons and this means that many Australian-born children have mixed ancestry. As would be expected, this mixing of cultures through intermarriage varies widely between birthplace groups, with high rates among the Germans and Dutch, and with low rates among Poles, Yugoslavs and those from the new source countries.

Price's (1989) figures show that Anglo-Celtic constitutes 74% of the ethnic strength of the Australian population, with non-Anglo-Celtic constituting 26%. Among the latter the largest contribution is from German and Italian (with 4% each), followed by Greek

(2%). Thus while the contribution from the sum of all non-Anglo-Celtic groups is relatively large, because there are so many of these, the contribution from any one is quite small (see Table 4.3).

'Ancestry' is another indicator of ethnicity, and a question about this was asked for the first time in Australia in the 1986 Census. In the question on the census form each person was requested:

> What is each person's ancestry?
> for example, Greek, English, Indian, Armenian, Aboriginal, Chinese, etc.

The information booklet distributed with the 1986 Census form gave the following advice: 'Ancestry means the ethnic or national group from which you are descended. It is quite acceptable to base your answer on your grandparents' ancestry. Persons of mixed ancestry who do not identify with a single group should answer their multiple ancestry. Persons who consider their ancestry to be Australian may answer *"Australia"*.'

The nature of the question, and the fact that, like the rest of the census, it was self-enumerated, enabled most people to exercise some choice and judgement about how to describe their ancestry. Therefore, while providing unique and valuable data, it was not necessarily an exact measure of ethnic background. According to the Australian Bureau of Statistics (1988, p.15) over 90% of persons answered the question, and of these 87% gave a single ancestry only. A summary of the findings is given in Table 4.4. The main observations are that 20% of the population stated 'Australian' ancestry only, and 77.6% stated either Australian or Anglo-Celtic, either singly or as part of a mixed ancestry. The largest other single ancestries given were: Italian (3.5%), Greek (2.0%), German (1.6%), Chinese (1.2%) and Dutch (1.0%). Price's (1989) figures show, in terms of single ancestries, that these are followed by Poles, Maltese, Lebanese, Indian and New Zealander. Price (1989) has done an extensive analysis of these data and the results are given in full in his study. From analysis of the responses regarding first ancestry and second ancestry, he derived a measure of 'ancestry strength', which, like 'ethnic strength', had the advantage of adding to the total Australian population at the 1986 Census. The total ancestry strength from Anglo-Celt, New Zealand and Australia was 70%, with a 30% contribution from other ethnic backgrounds.

Assessment of the size of the non-Anglo-Celtic group in Australia would be 11.6% in terms of birthplace, or 26% in terms of 'ethnic strength' (which refers to sums of fractions of ethnic origin for people with mixed origins). Alternatively, in terms of the people themselves Price (1988), estimates that at 30 June 1986, 47% of the population in Australia consisted of Anglo-Celtic origin only, 23% consisted of only non-Anglo-Celtic origin, and 30% consisted of persons with mixed Anglo-Celt and non-Anglo-Celt ethnic origins. (As a result of the mixing of different groups through intermarriage, the latter was in fact the fastest growing group in Australia.) Approximately one-half of the 23% with non-Anglo-Celtic origin only are in fact second generation (7%), or third and later generations (4%). These would have been born in Australia, and hence have been exposed to Australian schools and other institutions, and to the English language and to Australian society for most of their lives. This leaves approximately 12% who were born overseas and with non-Anglo-Celtic origin only.

Because the main sources of data relating to health and mortality are in terms of birthplace, most of the analysis in the following chapters is in terms of birthplace. Therefore, although it would be useful to be able to analyse health and mortality differences according to ethnic background, the data are not available. Such an analysis would be

particularly interesting in assessing the experience of the Australian-born children of both mixed and unmixed marriages. Although the birthplace statistics show that 11.6% of the population was born overseas with a NESB background, some of these would have arrived as young children and therefore would behave more like second generation than first generation Australians. Others may have married an Australian-born person, and/or have lived in Australia for a sufficiently long time to become fluent in the English language and be familiar with the customs and culture of Australia. Therefore the 11.6% represents an upper limit of the estimate of those who have little understanding or knowledge of the mainstream Australian society and language. This figure is, of course, also affected by the age and sex structure of the immigrant population, and these factors should be taken into account in comparisons with projected proportions in the future. Overall, the figures relating to ethnic origin give some idea of the size of the various birthplace and ethnic groups in Australia, and particularly the size of the non-Anglo-Celtic group.

4.3 Age and duration of residence in Australia

The changing composition of the migration stream to Australia and the emergence of major new source countries of immigrants during the 1970s and 1980s, has resulted in wide diversity with respect to the demographic characteristics of those birthplace groups, particularly duration of residence and age structure.

The Europeans are among the longest-established immigrant groups. They arrived in large numbers during the 1950s and 1960s but the intake has slowed markedly since then, and hence they have a relatively old age structure and high proportions who have been in Australia for more than 15 years as at the 1986 Census. This applies particularly to those from Poland, USSR and Hungary. The United Kingdom and Ireland group varies slightly from the European pattern in that it has maintained a relatively large volume of immigration, and so has a slightly younger age structure, and a relatively high proportion of more recent arrivals (see Tables 4.5 and 4.6).

In contrast immigrants from the new source countries consist of a very high proportion of recent arrivals, and a young age structure. This applies particularly to those from Hong Kong, Malaysia, Philippines and Vietnam.

Heterogeneity also occurs within a birthplace group with regard to new arrivals compared with longer term residents, due to changes in composition of different arrival cohorts from a particular country, for example, with regard to religious composition among the Lebanese, and as a result of the change to a more skilled intake among the Turks and several other birthplace groups.

The different age structures of the Australian-born and the overseas-born populations are highlighted in Figure 4.2. The Australian-born population includes a much higher proportion at ages 0–14 years (27.9% compared with 6.7%), a smaller proportion at the working ages 15–64 years (62.2% compared with 80.6%) and a slightly lower proportion at the elderly ages (9.8% compared with 12.7%). Within the working-age groups, the overseas-born has lower proportions at ages 15–24 years and considerably higher proportions at ages 35–64 years. The large difference at the youngest ages is, of course, partly due to the fact that the children born in Australia to immigrants are also included under the birthplace category Australian-born. Table 4.6 and Figure 4.2 also show that NESB immigrants have a slightly younger population compared with other immigrants, but still have an older population compared with the Australian-born. Because of the wide differences in age structure between the Australian-born and overseas-born population care must be exercised in the interpretation of crude rates relating

to events whose incidence varies widely with age, for example, crude death rates, or crude birth rates, or crude rates of morbidity. For this reason, many of the analyses in the following chapters will refer to age-specific rates or age standardised measures.

4.4 Socioeconomic status

As well as heterogeneity among birthplace groups with regard to duration of residence and age structure, there is also wide variation among birthplace groups with regard to socioeconomic status. One of the concerns among those who work with ethnic groups is their perceived concentration in unskilled labouring jobs (Reid and Trompf, 1990). However, as Table 4.7 shows, there is wide diversity among birthplaces with regard to the proportions in such occupations. Some birthplace groups, including many of those from the new source countries, have very low proportions in the unskilled occupations: plant or machine operator and labourer. At the other end of the scale, several birthplace groups have very high proportions of their male workers in these occupations, some of the largest of these being immigrants from Lebanon, Greece, Yugoslavia, Turkey and Indo-China.

A similar picture emerges with respect to post-school qualifications, among both men and women. Several birthplace groups, including some of the new and NESB immigrants, have high proportions with post-school qualifications, while again there are several with very low proportions with such qualifications, including those from Lebanon, Turkey, Greece and Vietnam (see Tables 4.8 and 4.9). However, it should be noted that the qualifications data may possibly overstate the well-being of some birthplace groups because of the fact that a relatively large proportion of overseas acquired qualifications, particularly those from NESB countries, are of a different standard or content, and are not recognised in Australia (Department of Employment, Education and Training, 1990).

Income is also an indicator of status and well-being, and again, there is wide diversity among different birthplace groups in Australia, some having considerably higher incomes than for the Australian-born, including several of the the new source countries: Japan, Malaysia, South Africa, Singapore, India and Sri Lanka. At the other end of the scale, some have considerably lower median incomes, particularly Vietnam, Lebanon and Turkey (see Table 4.10).

Another indicator of well-being is the proportion of each birthplace group in receipt of unemployment and other benefits. Although the figures are affected by differences in age structure, Table 4.11 suggests that some groups have a higher reliance on such benefits than others, notably those from Indo-China, Lebanon, Turkey and South America. These findings are consistent with those relating to the other socioeconomic variables.

4.5 English language proficiency

English language proficiency is an important measure of access to, and understanding of, institutions and services in Australia. It also affects school performance, labour force participation, and use of skills. At the 1986 Census in Australia, 11% of the total population aged 5 years and over spoke English 'not well' (9.2%) or 'not at all' (1.8%). If only those immigrants from NESB countries are considered, then the proportions are who are unable to speak English well or cannot speak it at all are 16.5% among males and 22.6% among females. The largest numbers occur in the birthplace groups: Italy, Greece, Vietnam, Yugoslavia, China and Lebanon, with higher numbers of women than men with poor English language proficiency in each birthplace population. Ital-

ians represent more than one-fifth of all those who are unable to speak English well or at all, and the ten birthplaces with the highest number of persons unable to speak English well or at all (shown in the first part of Table 4.12) represent nearly three-quarters of all those with poor English language proficiency.

The second half of Table 4.12 shows the birthplace populations with the highest proportions who are unable to speak English well or at all. Those with more than 40% in this category are: Chinese and Vietnamese males, and Chinese, Vietnamese, Turkish, Laotian, and Greek females. Again, ethnic women are more disadvantaged in this way than are men. Some birthplace populations with large proportions with poor English language ability have quite small populations, and therefore contribute relatively little to the overall lack of English in the community, including those from Laos, Japan, Chile and Spain. Of special concern is the combination of a large birthplace population and a high proportion with little or no English, as occurs for the birthplaces: Italy, Greece, Vietnam and Yugoslavia, with a relatively large and increasing contribution from China. There is further cause for concern in that many of those with little or no English have been unable to learn English despite the fact that they have lived in Australia for many years, or they are elderly, and therefore are unlikely to ever learn English.

4.6 Fertility

The health status and mortality experience of the different birthplace groups will be described in detail in the following chapters. It is also useful to consider the experience of different birthplace groups in Australia with regard to the other main demographic variable, fertility. There are two main ways of measuring fertility: completed family size from census or survey data, and age-specific fertility rates from registrations of births. The advantage of completed family size is that it refers to the experience of generations of women, describing the sum of their childbearing over their lifetime. While age-specific fertility rates provide a useful guide to fertility differences, they are affected by year to year fluctuations and by the postponement and making up of births. They also refer to the experience of a given calendar year (or group of years) rather than to the cumulative experience of women. Accordingly, figures relating to completed family size are referred to here.

As Table 4.13 shows, most migrant groups in Australia have lower completed family size than Australian-born women. In the 1960s Greek and Italian women in Australia had slightly larger numbers of children than Australian-born women, but now they have smaller families. Although Dutch and Maltese women on average still have more children than Australian-born women, the difference now is much smaller than it was at the 1966 Census. Turkish women also have slightly larger families than Australian-born women. However, the major difference occurs with respect to women from Vietnam and Lebanon, who, on average, have consistently large numbers of children.

Of interest is the finding that immigrants from the less developed countries tend to have lower fertility in Australia than occurs in their countries of origin. For example, the available data show that this is true with respect to women from China, India, Malaysia and Turkey (Young, 1991).

4.7 Conclusion

The overseas-born population in Australia consists of a very large number of diverse birthplace groups. There is a wide range of variation between the various birthplace groups with regard to demographic and socioeconomic variables, including age structure, duration of residence, occupation, educational qualifications and income. With regard to socioeconomic status, some birthplace groups are better off than the Australian-born, including several of those from the new source countries, and others are worse off, some experiencing severe disadvantage. In addition, averages or proportions relating to a given birthplace often disguise the diversity which exists within that birthplace population, so that comments describing the group as a whole will not necessarily refer to the characteristics of the various components of that particular ethnic group.

The main finding from this review is the heterogeneity of the overseas-born population in Australia. It can therefore be misleading to make statements about all immigrants or about all NESB immigrants when such diversity exists. The statistics also highlight the fact that Australia's overseas-born population consists of a great many different birthplace groups, but with relatively small populations. This makes it rather difficult to assess the health and mortality experience of all except the largest groups, because, even with national data, there are insufficient numbers to provide a full set of health and mortality indicators. The wide cultural diversity and the many different sets of customs and behaviour also present challenges for health care delivery.

Lack of English language proficiency poses special problems in the provision of health and welfare services. In 1947 overseas-born persons with a NESB background represented less than one in 50 of the total population, but in the 1980s they represented one out of every nine persons. Although many of these have acquired fluency in English, there are still relatively large numbers with little or no English, many of whom are unlikely ever to learn the language.

Table 4.1: *The changing composition of the population of Australia, Censuses 1947 to 1986*

Census year	Born in Australia	Overseas-born		
		Total	English-speaking background	Non-English-speaking background
			Percentages	
1947	90.2	9.8	7.9	1.9
1954	85.7	14.3	8.1	6.2
1961	83.1	16.9	7.9	9.0
1966	81.6	18.4	8.6	9.8
1971	79.8	20.2	9.6	10.6
1976	79.9	20.1	9.4	10.7
1981	79.1	20.9	9.7	11.2
1986	79.2	20.8	9.2	11.6

Source: Australian Bureau of Statistics (1989b)

Table 4.2: *Populations of the major birthplace groups in Australia, 1986 Census*

Birthplace[a]	Population	% of total
Australia	12,110,456	77.62
United Kingdom & Ireland	1,127,196	7.22
Italy	261,878	1.68
New Zealand	211,670	1.36
Yugoslavia	150,040	0.96
Greece	137,637	0.88
Germany	114,810	0.74
Netherlands	95,095	0.61
Vietnam	83,044	0.53
Poland	67,676	0.43
Lebanon	56,341	0.36
Malta	56,232	0.36
India	47,820	0.31
Malaysia	47,805	0.31
United States	42,383	0.27
China	37,468	0.24
South Africa	37,061	0.24
Philippines	33,727	0.22
Egypt	30,633	0.20
Hong Kong	28,294	0.18
Hungary	27,204	0.17
Turkey	24,529	0.16
Cyprus	23,643	0.15
Austria	22,623	0.14
Sri Lanka	22,513	0.14
Papua New Guinea	21,352	0.14
Canada	20,436	0.13
Chile	18,740	0.12
Czechoslovakia	17,874	0.11
Indonesia	17.723	0.11
Singapore	16,433	0.11
Spain	16,269	0.10

(continued)

Table 4.2: *Populations of the major birthplace groups in Australia, 1986 Census* (continued)

Birthplace[a]	Population	% of total
USSR[b]	15,233	0.10
Portugal	14,912	0.10
Fiji	14,756	0.09
Japan	11,191	0.07
Uruguay	9,586	0.06
Korea	9,284	0.06
Argentina	9,195	0.06
Finland	9,086	0.06
Switzerland	8,702	0.06
Denmark	8,625	0.06
Romania	8,117	0.05
Burma	7,611	0.05
Iran	7,498	0.05
Laos	7,424	0.05
Israel	7,003	0.04
Thailand	6,994	0.04
Timor	6,559	0.04
Zimbabwe	6,483	0.04
Lithuania	5,346	0.03
Sweden	5,141	0.03

(a) 'Not stated' birthplace, representing 1.57% of the population, has not been distributed, but has been included in the total.

(b) Excluding Estonia, Latvia, Lithuania and the Ukraine.

Source: Derived from Australian Bureau of Statistics (1989a)

Table 4.3: *Ethnic strength of the Australian population, showing the largest ethnic groups, 30 June 1987*

Ethnic origin	Number	% of total
Anglo-Celtic	12,114,270	74.50
German	610,000	3.75
Italian	604,500	3.72
Greek	322,000	1.98
Dutch	234,900	1.44
Chinese	207,700	1.28
Aborigine/Torres Strait Islander	163,000	1.00
Croatian	147,600	0.91
Polish	133,000	0.82
Lebanese	120,000	0.74
Jewish	120,000	0.74
Spanish	96,700	0.59
French	79,700	0.49
Vietnamese	77,020	0.47
Macedonian[a]	74,800	0.46
Indian	67,000	0.41
Danish	66,300	0.41
Hungarian	53,000	0.32
Swedish	49,700	0.31
Filipino	48,000	0.30
Turkish	42,200	0.26
Austrian	41,500	0.26
Serbian	40,300	0.25
Russian[b]	33,100	0.20
Portuguese	33,100	0.20
Swiss	29,900	0.18
Norwegian	27,670	0.17
Latvian	27,200	0.17
Maori	25,000	0.16

(a) Slav-Macedonians from Bulgaria, Greece and Yugoslavia.

(b) Excludes Baltic States, Byelo-Russian and Ukranian.

Source: Extracted from Table 3 in Price CA (1989) *Ethnic Groups in Australia*, Office of Multicultural Affairs, Department of Prime Minister and Cabinet, Canberra

Table 4.4: *Ancestry of the population, 1986 Census*

Ancestry	('000)	% of total stated
Australian	2,905.8	20.0
English	5,561.6	38.3
Irish	377.6	2.6
Scottish	339.8	2.3
Other Anglo-Celtic[a]	1,010.0	6.9
Aboriginal/Torres Strait Islander[b]	197.4	1.4
Australian-Anglo-Celtic[c]	306.6	2.1
Australian-Other[d]	183.6	1.3
Anglo-Celtic-Other[e]	591.3	4.1
Italian	507.2	3.5
Greek	293.0	2.0
German	233.3	1.6
Chinese	172.3	1.2
Dutch	149.7	1.0
Other[f] single ancestries	1,488.3	10.2
Other[f] mixed ancestries	218.0	1.5
Not stated, etc.	1,066.7	(g)
Total	15,602.2	100.0

(a) Single ancestries British (so described), Breton, Celtic, Cornish, Manx, Welsh, other British including Anglo-Saxon and combinations of English, Irish, Scottish, British (so described), Breton, Celtic, Cornish, Manx, Welsh and other British including Anglo-Saxon.

(b) All cases where Aboriginal or Torres Strait Islander were stated as either the first or second ancestry.

(c) All cases where Australian was either the first or second ancestry and the other ancestry was English, Irish, Scottish, Welsh, 'British' or Other British including Anglo-Saxon, or Breton, Celtic, Cornish or Manx.

(d) All cases where Australian is the first or second ancestry and the other ancestry is any ancestry except those specified in (b) or (c).

(e) Cases where one of the ancestries of note (c), other than Australian, is either the first or second ancestry, and the other ancestry is any other ancestry except Australian or Aboriginal.

(f) Includes ancestries mixed (so described) or not known and those inadequately described.

(g) 'Not stated, etc.' ancestry percentage has been distributed proportionally among all groups.

All ancestries except those with letters (a, b, c, etc.) against them are single ancestries.

Source: Australian Bureau of Statistics (1988) p.15. Derived from Table VF0039.

Table 4.5: *Overseas-born population: period of residence by birthplace and median period of residence by birthplace, 1986 Census*

Birthplace	Period of residence (years) 0–4	5–9	10–14	15+	Total[a]	Median period of residence (years)
	Percentages					
English speaking countries	12.9	12.3	11.6	60.7	100	18.4
Non-English speaking countries	15.0	11.9	10.1	60.3	100	19.3
Africa	19.6	17.8	12.3	48.3	100	14.7
Egypt	6.3	4.0	9.3	78.2	100	22.5
South Africa	28.4	31.9	12.4	25.6	100	8.3
America	28.5	16.2	25.3	28.1	100	10.9
Canada	25.4	15.7	17.4	39.4	100	12.3
United States	36.3	13.2	16.9	31.5	100	9.8
Asia	31.8	24.5	15.0	26.6	100	8.5
China	30.1	19.0	10.5	37.5	100	9.9
Cyprus	6.1	10.4	30.0	51.3	100	16.0
Hong Kong	41.9	22.7	15.5	18.1	100	6.6
India	18.4	10.1	18.3	51.2	100	15.5
Lebanon	13.2	18.5	23.8	40.7	100	13.4
Malaysia	39.1	22.4	13.1	23.7	100	7.3
Philippines	49.2	30.3	11.6	7.2	100	5.0
Sri Lanka	28.7	9.5	23.5	36.6	100	12.3
Turkey	11.6	15.7	29.4	40.7	100	13.6
Vietnam	43.2	51.2	2.5	1.2	100	5.6
Europe	6.9	6.4	8.7	75.1	100	22.9
Austria	4.5	3.5	4.6	84.7	100	>28.9
Germany	8.2	5.0	4.4	80.0	100	>28.9
Greece	2.4	2.4	6.2	85.1	100	23.6
Hungary	5.4	5.3	3.6	83.3	100	>28.9
Italy	1.3	1.9	3.1	90.3	100	>28.9
Malta	2.9	4.5	7.6	82.0	100	27.7
Netherlands	4.8	4.9	2.5	85.6	100	>28.9
Poland	18.5	11.3	2.9	65.0	100	>28.9
UK & Ireland	7.9	8.2	11.4	70.0	100	20.4
USSR[b]	2.4	9.5	2.8	82.3	100	>28.9
Yugoslavia	5.6	4.9	11.5	76.2	100	19.3
Oceania	30.1	28.5	13.1	24.9	100	8.2
New Zealand	31.4	30.3	11.0	24.3	100	7.8
Total	14.1	12.1	10.8	60.4	100	18.9

(a) Period of residence not stated has been included in the total column but not pro-rated between categories. Consequently sums of percentages across rows will not add to 100.

(b) Including the Baltic States.

Source: Australian Bureau of Statistics (1989b) p. 55

Table 4.6: *Age distribution and median age of the population by birthplace, 1986*

Birthplace	Age group (years)								Median age (years)
	Under 15	15–24	25–34	35–44	45–54	55–64	Total 15–64	Over 64	
	Percentages								
Australia	27.9	17.9	15.8	12.3	8.2	8.2	62.2	9..8	27.5
Overseas	6.7	12.3	17.8	21.5	15.9	13.0	80.6	12.7	40.7
Total[(a)]	23.3	16.7	16.2	14.2	9.8	9.2	66.1	10.6	31.1
Overseas									
English speaking countries	6.6	13.6	18.2	20.5	13.9	11.6	77.7	15.7	40.3
Non-English speaking countries	6.8	11.3	17.5	22.3	17.5	14.2	82.9	10.3	41.1
Africa	10.8	13.8	21.7	22.1	13.1	9.9	80.6	8.6	36.5
Egypt	1.7	6.3	15.9	25.3	19.3	18.3	85.0	13.3	45.4
South Africa	18.9	15.8	18.8	21.0	10.6	6.3	72.4	8.7	33.4
America	15.7	18.9	20.7	23.2	10.1	5.9	78.7	5.6	32.6
Canada	17.4	18.8	22.9	17.7	8.0	7.1	74.4	8.2	30.8
United States	15.7	17.7	21.1	23.1	8.9	6.7	77.5	6.8	33.0
Asia	13.2	19.1	24.2	19.8	10.5	7.2	80.9	5.9	32.3
China	4.1	5.7	13.1	23.5	17.2	17.1	76.7	19.2	46.9
Cyprus	4.5	13.0	19.7	24.1	16.2	14.9	87.9	7.7	39.6
Hong Kong	19.5	22.4	27.8	16.8	7.9	3.3	78.2	2.3	28.1
India	5.6	11.4	18.6	24.3	15.7	12.3	82.2	12.2	41.0
Lebanon	8.4	20.8	25.8	21.6	11.9	7.7	87.8	3.8	33.0
Malaysia	13.7	32.9	22.2	17.8	7.8	3.4	84.2	2.0	26.6
Philippines	16.3	12.4	31.2	25.5	6.8	3.9	79.8	3.8	32.2
Sri Lanka	10.2	12.7	20.6	23.3	13.4	9.9	79.9	9.9	37.5
Turkey	7.1	26.0	20.3	22.0	12.6	5.3	86.1	6.8	33.2
Vietnam	21.2	24.7	31.8	12.8	4.8	3.0	77.1	1.7	26.2
Europe	3.4	9.1	14.8	22.3	18.6	15.9	80.8	15.8	45.2
Austria	3.0	4.7	11.0	26.2	21.3	18.0	81.2	15.8	47.4
Germany	3.3	6.2	11.3	31.8	18.9	18.0	86.3	10.4	44.0
Greece	1.5	5.6	13.0	26.1	30.9	15.1	90.6	7.9	46.2
Hungary	1.6	1.8	8.8	16.5	24.3	24.7	76.0	22.3	53.7
Italy	0.8	4.4	11.3	21.1	25.7	22.5	85.0	14.2	50.1
Malta	1.9	4.8	19.0	32.1	20.7	12.9	89.5	8.6	42.3
Netherlands	2.5	4.0	13.3	29.0	19.1	17.5	83.0	14.5	45.6
Poland	5.5	3.2	14.0	13.0	10.0	28.4	68.6	25.9	57.4
UK & Ireland	4.1	11.9	16.2	20.9	15.4	13.2	77.6	18.2	43.4
USSR[(b)]	1.5	2.2	2.7	8.1	13.5	32.9	59.5	39.1	62.6
Yugoslavia	2.4	11.5	17.4	24.8	24.4	12.6	90.6	7.0	42.5
Oceania	15.3	22.0	26.8	17.1	7.9	5.0	78.8	5.8	29.5
New Zealand	14.4	20.9	27.3	17.9	8.1	5.2	79.3	6.3	30.1

(a) Birthplace not stated has been included in the total row but has not been pro-rated between birthplace categories.

(b) Including the Baltic States.

Sources: Census of Population and Housing (1986)
Australian Bureau of Statistics (1989b) p.50

Table 4.7: *Proportion of employed males aged 15 years and over with the occupations of plant or machine operator or labourer, by birthplace, 1986 Census*

Birthplace	Percentage	Birthplace	Percentage
Japan	7.5	Mauritius	29.1
Switzerland	11.6	Iran	29.6
South Africa	11.9	New Zealand	30.3
Zimbabwe	12.4	Indonesia	30.9
United States	12.6	Lithuania	31.5
Hong Kong	12.8	Burma	31.5
Malaysia	14.4	Norway	32.2
Kenya	15.4	Argentina	32.7
Singapore	16.4	Fiji	33.5
Canada	17.1	Spain	35.3
Israel	17.3	Poland	36.4
Sri Lanka	17.5	Romania	37.3
China	19.9	Cyprus	38.0
India	20.2	Italy	38.6
Egypt	20.6	Syria	38.9
Germany	20.7	Korea	39.0
Austria	21.0	Chile	39.1
France	21.6	Ukraine	41.5
Denmark	21.7	Lebanon	43.2
Netherlands	21.8	Iraq	43.3
Belgium	22.6	Uruguay	44.9
Finland	23.7	Greece	47.6
United Kingdom & Ireland	23.9	Portugal	47.7
Czechoslovakia	23.9	Yugoslavia	47.7
Sweden	23.9	Malta	51.5
Pakistan	24.4	Turkey	53.6
Hungary	24.5	Vietnam	60.8
Papua New Guinea	24.5	Laos	66.4
Latvia	25.2	Kampuchea	66.7
USSR*	25.5	Timor	70.0
Australia	26.5	Tonga	71.8
Philippines	27.7		

* Excluding Estonia, Latvia, Lithuania and the Ukraine.

Source: Derived from Table 13 in Price CA (1989) *Ethnic Groups in Australia,* Office of Multicultural Affairs, Department of Prime Minister and Cabinet, Canberra

Table 4.8: *Proportion of men aged 15 years and over with no post-school qualifications, 1986 Census*

Birthplace	Percentage
Austria	31.8
Germany	32.9
Czechoslovakia	38.8
India	41.5
Hungary	41.6
Netherlands	42.3
United States	44.5
Malaysia	47.9
Canada	48.5
Sri Lanka	50.4
United Kingdom & Ireland	50.5
New Zealand	53.1
USSR *	55.3
Spain	57.7
Poland	57.8
Central & South America	58.3
Australia	59.8
Pacific Islands	62.1
Yugoslavia	63.8
China	66.7
Cyprus	68.2
Italy	69.4
Malta	70.8
Lebanon	76.4
Turkey	76.7
Greece	79.2
Vietnam	80.4

* Includes Baltic States and the Ukraine.

Source: Derived from Table 15 in Price CA (1989) *Ethnic Groups in Australia*, Office of Multicultural Affairs, Department of Prime Minister and Cabinet, Canberra

Table 4.9: *Proportion of women aged 15 years and over with no post-school qualifications, Australia, 1986 Census*

Birthplace	Percentage
United States	49.9
Malaysia	51.3
India	51.5
Canada	53.6
Czechoslovakia	54.8
Germany	60.4
Austria	62.5
Sri Lanka	64.0
Hungary	65.2
Central & South America	68.1
New Zealand	68.7
Pacific Islands	70.0
Netherlands	71.3
USSR *	71.8
Poland	71.8
United Kingdom & Ireland	72.2
Australia	74.3
China	78.7
Spain	79.7
Cyprus	82.4
Yugoslavia	83.2
Vietnam	85.2
Turkey	87.5
Lebanon	87.8
Italy	88.0
Greece	89.2
Malta	89.9

* Includes the Baltic States and the Ukraine.

Source: Derived from Table 16 in Price CA (1989) *Ethnic Groups in Australia*, Office of Multicultural Affairs, Department of Prime Minister and Cabinet, Canberra

Table 4.10: *Median income among men aged 35–39 years in Australia according to birthplace, 1986 Census*

Birthplace	$
Japan	32,220
USA	26,650
Canada	26,350
Malaysia	25,610
South Africa	25,540
United Kingdom & Ireland	21,950
Singapore	21,715
India	21,365
Germany	21,090
New Zealand	21,005
Sri Lanka	21,000
Netherlands	20,850
Australia	20,730
Hong Kong	20,655
Hungary	20,330
Philippines	19,890
France	19,775
Egypt	19,420
Czechoslovakia	18,940
Spain	18,525
Austria	18,255
Italy	18,015
Fiji	17,850
Poland	17,625
Indonesia	17,520
Chile	17,425
Malta	17,340
Cyprus	16,385
China	16,370
Yugoslavia	15,940
Greece	15,380
Vietnam	13,780
Lebanon	13,660
Turkey	13,105

Source: Derived from Table 17 in Price CA (1989) *Ethnic Groups in Australia*, Office of Multicultural Affairs, Department of Prime Minister and Cabinet, Canberra

Table 4.11: *Recipients of main government benefits: rate per 1,000 population by type of benefit by birthplace[a], Australia, 12 May 1989*

Birthplace	Rate per 1,000 population			
	Employment	Sickness	Special	Total
Australia	21.4	4.0	0.8	26.2
Overseas	26.6	7.0	3.6	37.1
Total[b]	22.6	4.7	1.4	28.7
Overseas				
English-speaking countries	20.5	4.7	0.9	26.1
Non-English-speaking countries	31.2	8.7	5.6	45.5
Africa	18.3	5.5	3.5	27.3
Egypt	25.3	10.1	3.8	39.3
South Africa	10.9	2.4	2.8	16.2
Other	20.6	5.2	4.0	29.9
Americas	27.3	5.2	5.4	38.0
Canada	16.3	2.2	0.6	19.1
Chile	42.3	8.0	10.6	60.8
USA	14.6	2.5	0.7	17.9
Other	39.8	8.4	10.7	58.8
Asia	46.2	8.6	11.0	65.7
India	16.0	3.7	5.0	24.7
Indo China[c]	110.1	11.2	23.2	144.5
Lebanon	103.4	31.1	12.3	146.8
Turkey	63.2	25.2	7.3	95.7
Other	19.9	3.6	8.0	31.5
Europe	21.0	6.8	1.4	29.2
Germany	24.3	6.6	1.0	31.9
Greece	20.9	13.5	1.9	36.2
Italy	12.7	7.0	1.0	20.8
Malta	18.9	10.3	0.8	30.0
Netherlands	17.5	4.6	0.9	23.0
Poland	25.9	7.2	4.8	37.9
United Kingdom & Ireland	20.3	4.7	0.7	25.7
Yugoslavia	25.5	13.0	2.5	41.1
Other	30.3	8.9	3.6	42.8
Oceania	26.2	6.1	2.5	14.82
New Zealand	24.6	5.9	1.6	32.1
Other	33.1	6.6	6.3	46.0

(a) Estimated resident population at 30 June 1989.

(b) Includes birthplace not coded and grants per National Benefits System.

(c) Comprises Kampuchea, Laos and Vietnam.

Source: Australian Bureau of Statistics (Brisbane) (1990) *The Economic Status of Migrants in Australia*, Bureau of Immigration Research, AGPS, Canberra, p.109

Table 4:12 *Proficiency in English among overseas-born persons in Australia aged 5 years or more, 1986 Census*

Birthplace populations with the largest numbers who cannot speak English or who cannot speak English well.

MALES			FEMALES		
Birthplace	**No.**	**% of all with little or no English[a]**	**Birthplace**	**No.**	**% of all with little or no English[a]**
Italy	31,207	20.2	Italy	41,076	21.0
Greece	20,149	13.1	Greece	27,705	14.2
Vietnam	18,686	12.1	Yugoslavia	19,505	10.0
Yugoslavia	15,340	9.9	Vietnam	17,685	9.0
China	7,645	5.0	China	9,971	5.1
Lebanon	6,046	3.9	Lebanon	8,308	4.2
Poland	5,873	3.8	Poland	7,292	3.7
Turkey	4,132	2.7	Turkey	5,048	2.6
Chile	2,405	1.6	Cyprus	3,812	1.9
Malta	2,280	1.5	Chile	2,928	1.5
Sum of these 10 birthplaces		73.7	Sum of these 10 birthplaces		73.2

Birthplace populations with the highest proportion who cannot speak English or who cannot speak English well.

Birthplace	**No.**	**% of that birthplace population**	**Birthplace**	**No.**	**% of that birthplace population**
China	7,645	41.8	China	9,971	52.4
Vietnam	18,686	41.1	Vietnam	17,685	48.1
Laos	1,293	34.4	Turkey	5,048	43.4
Japan	1,615	32.9	Laos	1,534	42.6
Turkey	4,132	32.6	Greece	27,705	41.5
Greece	20,149	28.6	Italy	41,076	34.1
Chile	2,405	26.7	Cyprus	3,812	33.0
Spain	2,153	24.6	Lebanon	8,308	32.0
Italy	31,207	22.1	Japan	1,825	31.8
Lebanon	6,046	20.5	Chile	2,928	31.6
All NESB[b]	153,422	16.5	All NESB[b]	195,024	22.6

(a) Total number of persons aged 5 years or more who cannot speak English or who cannot speak English well is 154,329 males and 195,698 females.

(b) All NESB = all birthplaces for which English is not the main language.

Source: Australian Bureau of Statistics, *1986 Census*, microfiche table CX0041

Table 4:13 *Birthplace groups in Australia according to average completed family size at the 1966, 1976, 1981 and 1986 Censuses*

Birthplace	Average issue of women aged 45–49 years			
	1986 All	1981 All	1976 Ever-married	1966 Now married
USSR	2.11	2.22		
Poland	2.16	2.28	2.30	2.01
Hungary	2.18	2.02		1.46
Canada	2.23	2.45		
Germany	2.24	2.49	2.40	1.93
Yugoslavia	2.29	2.37	2.34	2.19
Malaysia	2.30	2.68	3.05	
USA	2.34	2.90	2.93	
Greece	2.41	2.47	2.39	3.06
Egypt	2.45	2.51	2.47	
South Africa	2.45	2.81	3.12	
India	2.57	2.82	3.21	
United Kingdom & Ireland	2.65	2.78	2.87	2.49
New Zealand	2.71	2.97	2.82	
China	2.80	3.04	2.77	
Italy	2.83	2.85	2.82	3.08
AUSTRALIA	2.88	3.06	3.11	2.68
Netherlands	2.97	3.26	3.42	3.53
Malta	3.23	3.55	4.07	5.58
Turkey	3.28	3.27		
Vietnam	3.82	4.64		
Lebanon	4.19	4.80	4.69	
Ratio of average issue of each birthplace group to the average issue of Australian-born women				
USSR	0.73	0.73		
Poland	0.75	0.75	0.74	0.75
Hungary	0.76	0.66		0.76
Canada	0.77	0.80		
Germany	0.78	0.81	0.77	0.72
Yugoslavia	0.80	0.77	0.75	0.82
Malaysia	0.80	0.88	0.98	
USA	0.81	0.95	0.94	
Greece	0.84	0.81	0.77	1.14
Egypt	0.85	0.82	0.79	
South Africa	0.85	0.92	1.00	
India	0.89	0.92	1.03	
United Kingdom & Ireland	0.92	0.91	0.92	0.93
New Zealand	0.94	0.97	0.91	
China	0.97	0.99	0.89	
Italy	0.98	0.93	0.91	1.15
Netherlands	1.03	1.07	1.10	1.32
Malta	1.12	1.16	1.31	2.08
Turkey	1.14	1.07	0.93	
Vietnam	1.33	1.52		
Lebanon	1.45	1.57	1.51	

Source: Young (1991)

Figure 4.1: *International population movement by country/region of residence/stay, Australia 1951–1989*

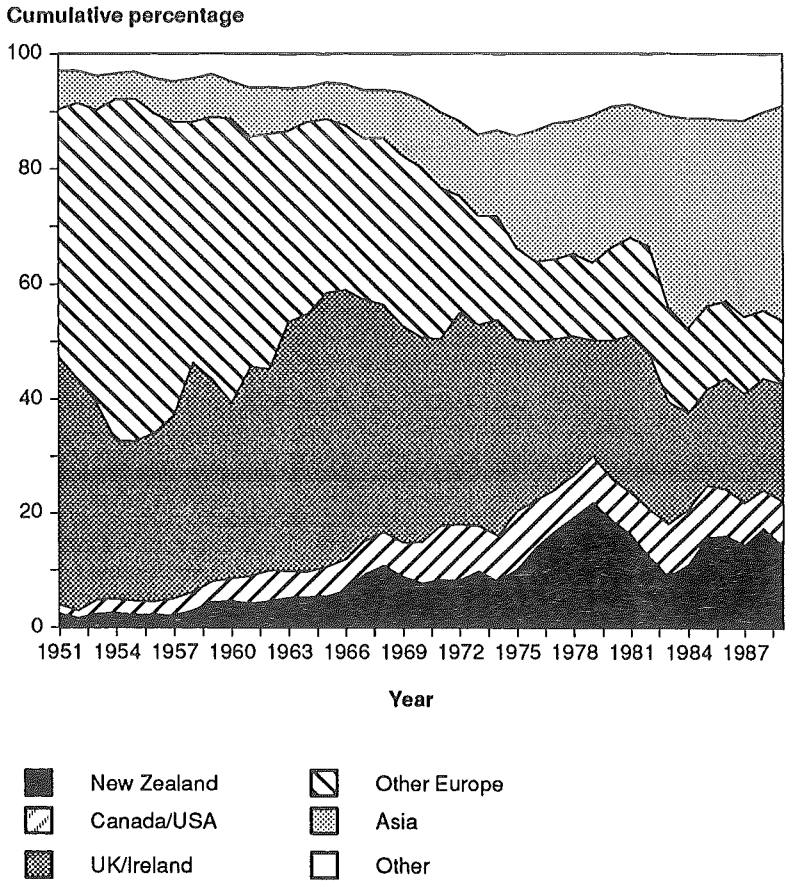
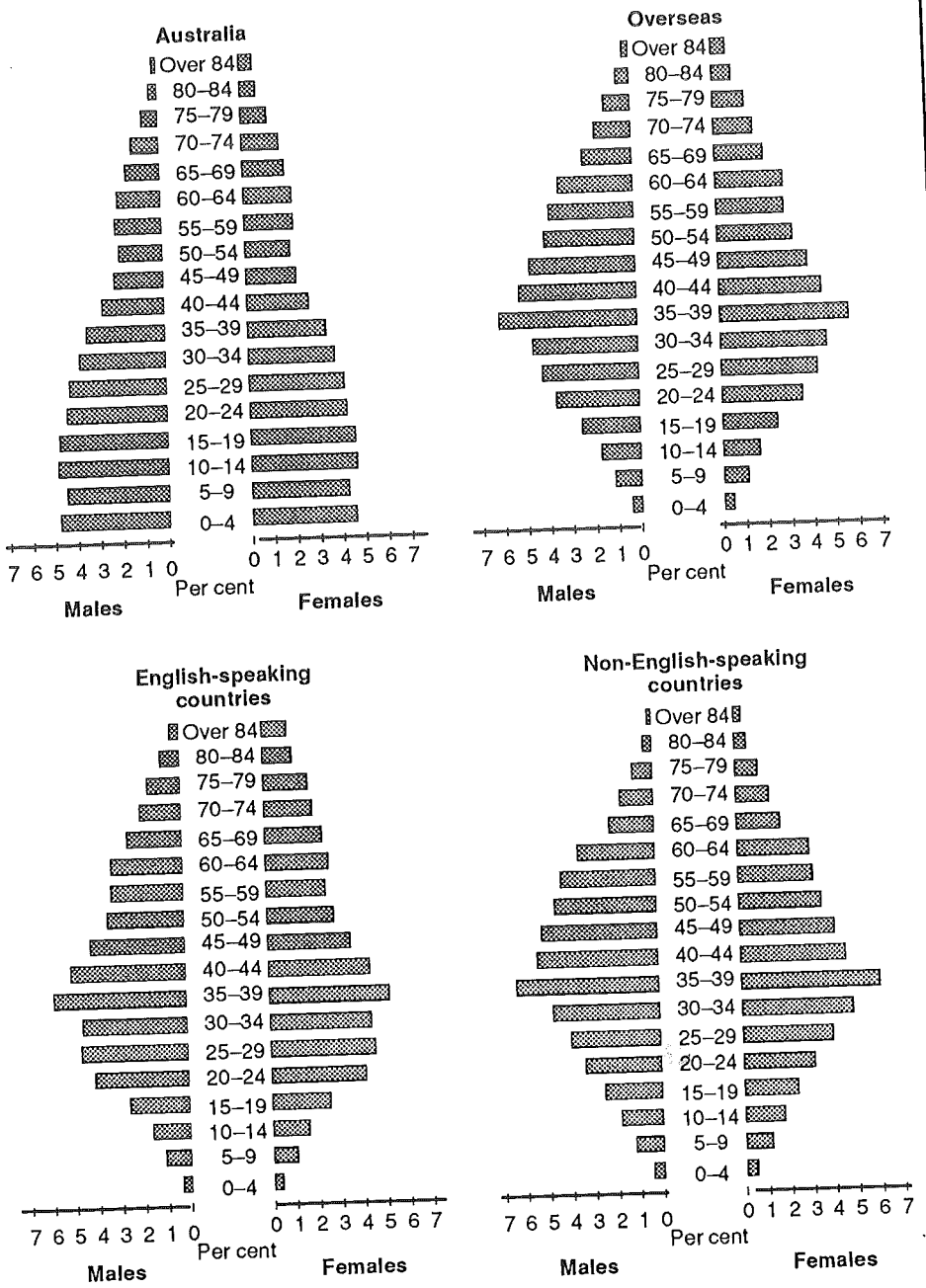


Figure 4.2: *Age and sex distribution of the estimated population by birthplace, 1986*



Source: ABS (1988)

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5 Mortality, the ultimate indicator of survival: the differential experience between birthplace groups

Christabel Young

5.1 Introduction

Comparisons of the mortality experience of immigrants in Australia with the host population began with the analysis by Abbott (1952) of mortality from tuberculosis relating to experience around the census years of 1911, 1921, 1933 and 1947. This was followed by a series of studies which examined birthplace differences in mortality from lung cancer, including Dean (1962) and McCall and Stenhouse (1971). Staszewski et al. (1971) investigated mortality from stomach cancer and lung cancer among Poles in Australia. Also at about this time, Stenhouse and McCall (1970) published their findings on birthplace differences in mortality from cardiovascular diseases.

Another series of studies examined mortality from external causes, namely, suicide (Whitlock, 1971) and suicide and motor vehicle accidents (Burvill et al. 1973). Cancer mortality, particularly stomach cancer, has been the focus of the work of McMichael and his colleagues (McMichael et al. 1980; McMichael & Bonett 1981; McMichael 1983) and by Armstrong et al. (1983). There have also been some other specialised studies, which have investigated diabetes among the Maltese-born (Martin et al. 1984), and the mortality of ethnic Chinese in Australia (Zhang et al. 1984), while Powles and Gifford (1990) have explored the health status of Greeks in Australia and in Greece in relation to the incidence of cardiovascular disease. The study of birthplace differences in mortality from heart disease continues with the recent analysis by Gibberd et al. (1984). Fewer studies have considered a broad range of causes of death or total mortality from all causes and these include particularly Dasvarma (1980) and Dunt (1980).

There are two recent sets of studies of mortality experience relating to 1980–82 (Young 1986a, 1986b, 1987, 1991) and 1984–86 (Australian Bureau of Statistics 1989). This current chapter relates the findings from these two periods to new data on mortality experience during 1987–89. In the first two periods the deaths data during 1980–82 and 1984–86 are related to the 1981 and 1986 Census populations, respectively. With the new data, the deaths recorded during the three years 1987–89 are related to the estimated resident population at 30 June 1988. These estimates are available for the birthplace populations listed in Table 5.1, and so this has determined the extent of the 1987–89 analysis.

5.2 Methodology

Throughout the analysis, the experience of males and females is considered separately (although sometimes the figures are pooled to overcome the problem of small numbers), and the analysis relates to the age range 15–74 years. There are too few deaths at the young ages to warrant analysis by birthplace, and a broad grouping at ages 0–14 years would be inappropriate. There are also methodological problems in working with mortality at the oldest age groups, particularly an open-ended age group.

There are two main ways of analysing differential mortality experience between birthplace populations: age-specific mortality rates and the standardised mortality ratio

(SMR). Because of the relatively small numbers of people in most birthplace groups in Australia, and hence the even smaller numbers in each five-year or ten-year age group, there are usually insufficient numbers of deaths to permit the calculation of reliable age-specific mortality rates by cause of death. The SMR overcomes the problems of small numbers and also has the advantage of being a single index of mortality, and so can also produce meaningful results for the relatively small populations of the many birthplace groups in Australia. It also takes into account the differing age structures of the various populations being considered. However, the usefulness of the SMR is reduced if the relative risk of mortality of the given birthplace group compared with the standard population varies greatly with age. It is possible to carry out a chi-square test to determine which birthplace populations have statistically significant heterogeneity.

The SMR is generally calculated separately for each sex, and is equal to the ratio of the observed number of deaths to the expected number of deaths for a given birthplace group, multiplied by 100. The usual practice is to restrict the age range to the middle adult ages, for example, 15–74 years, so as to avoid the problem of small numbers at the childhood ages and to concentrate on premature adult death rather than deaths near the end of the life span. This also reduces the extent of heterogeneity. The observed number of deaths (O) is equal to the actual number of recorded deaths of males (or females) within a given birthplace group during a year or short duration of years, while the expected number of deaths (E) is derived by multiplying the age-specific mortality rates of a 'standard' population (in this case the total population by sex in Australia) by the population of the given birthplace group in that particular age group and summing these products over each five-year age group. Accordingly, the SMR equals $100 \times O/E$. An SMR of less than 100 therefore indicates that a given birthplace group has a low level of mortality relative to the total population in Australia, while an SMR greater than 100 indicates a relatively high level of mortality.

A chi-square test can be used to test the significance of the SMR values so derived. The value of chi-square, with one degree of freedom, is equal to: $(O–E)^2/E$. A chi-square which exceeds the critical value of 3.84 at the 5 per cent level of significance, would indicate that the level of mortality of males (or females) with that particular birthplace was significantly different from that of males (or females) in all Australia.

In the analysis and the tables, SMRs have been omitted if they are based on small numbers. The criterion for inclusion is that either the expected or the observed number of deaths over the three-year period 1987–89 must be equal to or greater than 20 (25 with the 1980–82 data). A lower limit of 20 means that if the observed number of deaths changed by only one, then this would change the SMR by five points in either direction (e.g. to 95 or to 105 if the original SMR was 100). This was selected as a reasonable variation. In addition, SMRs are included if the expected number of deaths lies between 10 and 19, and the SMR is equal to or greater than 150. In two instances, when the observed and expected number of deaths is small, a pooled value of the SMR is derived from similar countries with similar levels of mortality (Canada and the United States, and Malaysia and the Philippines). More often, a pooled SMR is derived from combined data for males and females from the same birthplace, but only if the combined expected number of deaths is equal to or greater than 20 with regard to the 1987–89 data (or greater than 25 with the 1980–82 data), and if the original SMRs for males and females do not differ widely. No criteria seem to have been set in the presentation of the 1984–86 data.

In the Tables, SMRs that differ significantly from 100 (the level for total Australia) at the 5 per cent level of significance are indicated by an asterisk. There are also several SMRs

which are large or small but which are not statistically significant; these should be interpreted with caution. Note that tests of statistical significance were not carried out with the 1984–86 data.

It should be noted that because 79 per cent of the population are born in Australia, the SMR of the Australian-born is always close to 100.

Although care has been taken to present figures which only relate to sufficiently large numbers of deaths, the results may still be subject to other sources of error. For example, the accuracy of the findings is dependant on the correct and consistent reporting of age and birthplace in both the census and the death registration data. The reliability of the results is also affected by the accuracy of the estimates of the base resident population, which in turn, is also dependant on the accuracy of migration statistics, with regard to numbers, category (e.g. visitor, resident), as well as birthplace and age. However, although the possible existence of these limitations may have some effect, they are not expected to affect the major findings.

5.3 Results

5.3.1 SMRs for all causes of death combined

Table 5.2 shows mortality experience during the three years 1987–89 among males and females aged 15–74 years by birthplace, sorted according to the SMRs of males. The data show that most birthplace groups in Australia experience lower mortality than for all Australia, and many of these experience significantly lower mortality. These groups include particularly: those born in Greece, Italy, Central and South America, Yugoslavia, the Netherlands, Lebanon, Egypt (males), South Africa, Hong Kong, Vietnam, Malaysia, the Philippines, China and India. Very few birthplace groups experience higher mortality than for all Australia, the main groups, apart from the Australian-born, being those born in: Poland, the Pacific Islands, Canada and New Zealand (see also Figures 5.1 and 5.2).

Table 5.3 shows that the results from the 1987–89 analysis are generally consistent with those from the 1984–86 and 1980–82 studies. The main departure from the earlier figures is the decline in the SMRs for those from India, and the increase in the SMRs for those from New Zealand between 1980–82 and 1987–89. In particular the three sets of figures highlight the consistently low mortality of Lebanese men, Vietnamese, Greeks, Italians, Yugoslavs and Dutch. The 1980–82 analysis also confirms that relatively few birthplace populations in Australia had significantly higher mortality than for total Australia. These countries were: Scotland, Ireland, Poland, Finland and the Pacific Islands. Similar results were also found in the 1984–86 analysis, and in the mortality data relating to 1970–72 and earlier dates (Dasvarma 1980).

The formal and self-selection of migrants for health and other characteristics is an important factor in producing their low mortality in comparison with the Australian-born. The potential impact of 'selection' in the migration process is influenced by the overall level of mortality and the range of variation in health status within the country of origin. Migrants from countries with low mortality and universal high quality health care are likely to have mortality rates little different from those in the country of origin. In contrast, migrants who have been selected from countries with higher mortality and with wide differentials in the availability and quality of health care are likely to experience considerably lower mortality than exists in the source country. Data relating to the level of mortality of birthplace populations in Australia and the level of mortality in the countries of origin support this hypothesis. Therefore,

while virtually all ethnic groups in Australia experience lower mortality than occurs in their source country, immigrants from the less developed countries, such as Malaysia and the Philippines, have very much lower mortality than would have been expected from the experience in their countries of origin (Young 1987).

5.3.2 Age-specific mortality rates

The underlying assumption in the calculation of the SMR is that it represents the ratio of the age-specific mortality rate of the given birthplace population in each age group to the age-specific mortality rate of the standard population (total Australia) in the corresponding age groups. The extent to which this is true can be investigated by comparing the ratios of the age-specific mortality rates for each age group with the SMR for the age range 15–74 years. This is done in Table 5.4 with regard to males in each of the major birthplace populations in Australia. Overall the ratios of the age-specific rates are reasonably close to the overall SMR, and this confirms the reliability of the SMR as an overall indicator of relative advantage or disadvantage. For example, Greek males, with an overall SMR of 59, have ratios in each age group within the range 0.43 and 0.63, and the Netherlands, with an overall SMR of 92, has a range of ratios of 0.83 to 0.97. Similar results are found with regard to the age-specific mortality rates for women. Of note is the fact that the ratios relating to the Australian-born are highest at ages 25–64 years, and lower at ages 15–24 and 65–74 years.

In some cases the ratios of the age-specific rates of the other birthplace groups increase at the oldest ages, but this occurs for less than one-half of the birthplaces, and is not consistent. Poland and Other Oceania show the greatest increase in the ratios at the oldest ages. For some birthplaces, including Germany, New Zealand, Vietnam and possibly Malta, the ratios are highest at the young adult ages.

Although the SMR is a generally reliable measure of the overall relative mortality of a given birthplace population, it is also useful to refer to the age-specific mortality rates with regard to the actual level of mortality. In particular, it is important to clarify the distinction between a high *relative* level (indicated by the SMR), and a high *actual* level. For example, as indicated later in this chapter, although women from Egypt, Lebanon and Malta each have high SMRs from diseases of the circulatory system relative to all women, they generally have low mortality from this cause of death compared with men with the corresponding birthplaces.

Over the period 1980–82 to 1987–89 the age-specific mortality rates from total causes have generally decreased at all ages and for all birthplaces, including the Australian-born. Apart from some small increases at the youngest ages for some birthplace populations, the main exception to the general trend are New Zealanders, especially females at the older ages (45–54 and 65–74 years). Trends in the age-specific rates for males in the largest birthplace populations are shown in Table 5.5. It is of interest to note that although the SMRs of some birthplace groups have increased slightly over the last seven years, the age-specific rates of each birthplace population have generally decreased over the same period. In other words, an increase in the SMRs, or an increase in the *relative* level of mortality, does not imply an increase in the *actual* level of mortality experienced.

5.3.3 Mortality according to period of residence

An analysis of the mortality data relating to 1980–82 and 1984–86 reveals only a small increase in SMRs with increasing period of residence for most birthplace groups, and sometimes a decrease or virtually no change (see Tables 5.6 and 5.7).

In addition, even after 15 or more years residence in Australia, many of the birthplace groups still have mortality levels which are significantly different from those for total Australia. These include those from: Lebanon (males), Greece, Italy, the Netherlands (females), Poland, Spain, Yugoslavia (males), England and Wales (females), Scotland, Ireland, and other Oceania (males).

From the analysis the conclusions are that: (a) the change in the level of mortality with period of residence in Australia are normally, but not always, an increase; (b) the increase is often quite small; (c) the ultimate level attained after a period of 15 or more years is often significantly different from the level for total Australia; and (d) the ultimate level of mortality attained after 15 or more years differs widely between different birthplace groups.

While the slight increase in mortality which occurs with increasing duration of residence may indicate a convergence to the overall Australian experience, an alternative explanation is that is also reflects a convergence to the underlying mortality profile in the country of origin.

Care is required in the interpretation of any changes in the values of the SMRs with increasing duration of residence. Firstly the data do not refer to the lifetime experience of a cohort but refer to the experience, during 1980–82 and during 1984–86 of different arrival cohorts. Accordingly, different levels of mortality at different durations of residence may reflect the experience of different waves of immigrants.

Another factor which may affect the trends in the SMRs with increasing duration of residence is the presence of a large proportion of visitors in Australia among some birthplace groups. From the 1981 census data, this is most likely to affect persons from Japan, the United States, Canada, Germany, Greece, the Netherlands, New Zealand, France, India and the British Isles, in that order. The non-resident status of these visitors is likely to reduce the level of mortality of the group with 0–4 years duration of residence in Australia. Unfortunately it is not possible to exclude these from the calculations, because the deaths data do not distinguish between visitor and resident.

Another interesting question is whether migrants who find themselves in poor health are more likely to stay in Australia or return to their country of origin. This represents a different form of 'selection'. While some commentators claim that the lower mortality of immigrants occurs because sick immigrants are more likely to return to their homeland, a wide range of factors is likely to influence such decisions, and to date, there are no data which can prove whether sick or well immigrants are more likely to return.

The probability of a sick migrant returning may be affected by whether medical care is cheaper and more accessible in Australia than in the source country, and the availability of pension schemes and other welfare benefits in the country of origin compared with Australia. One might expect that, in general, those from the poorer countries would be more likely to stay while those from the more developed countries would be more likely to leave, if sick. It seems unlikely that immigrants who arrived as refugees would return to their countries of origin whether sick or well (unless there had been dramatic advances in human rights since their departure), and this would affect birthplace populations such as the Vietnamese, and the Lebanese (before 1991).

Other important factors which are likely to influence whether or not a sick immigrant returns to his/her country of origin is whether most relatives are in Australia or overseas, and whether the spouse has the same or similar birthplace origin or is Australian-born. The extent of outmarriage of some birthplace groups with Australian-born persons has risen quite dramatically during the post-war years, and is now

quite high. It is likely that immigrants with an Australian-born spouse are less likely to leave than those with a spouse from the country of origin. The sex of the immigrant is also likely to play a role in the decision-making process.

5.3.4 Australian-born children of migrants

Unfortunately there are no comparable data which describe the relative mortality experience of the second generation, that is, the Australian-born children of migrants. Such a study would be of special interest because a different selection process has occurred with regard to the overseas-born parents compared with their Australian-born children. While the initial migrants are generally selected for health and other characteristics, their children born in Australia are not. In addition, data from the Australian Bureau of Statistics (1989) suggest that children of migrants, and of non-English-speaking migrants particularly, may be less likely to receive preventive health care, such as dental care and immunisations against the common childhood diseases, compared with children with Australian-born parents (Australian Bureau of Statistics, 1989). These would of course include overseas-born as well as Australian-born children.

It is likely that the health and mortality experience of the Australian-born children of migrants will be affected by the combination of the health practices and mortality levels in the source countries of their parents and those which prevail in Australia. In the ideal situation, Australian-born children should benefit from the best of both sets of cultures, including the healthier dietary practices of many immigrant groups. The extent to which this occurs may be influenced by whether both parents were born overseas, or whether the child is from a mixed marriage with one Australian-born and one overseas-born parent. Differences are also likely to occur depending on whether the Australian-born parent is the mother or the father.

5.3.5 Mortality by cause of death

The causes of death used in this analysis refer to the Ninth Revision (1975) of the World Health Organization (WHO) International Classification of Diseases (ICD) described in the Australian Bureau of Statistics (1990) publication, *Causes of Death* (Cat. No. 3303.0). The causes of death considered in the three recent studies of mortality in Australia are listed in Table 5.8.

Tables 5.9 to 5.11 show SMRs for the three main causes of death: malignant neoplasms, diseases of the circulatory system, and accidents, poisoning and violence, with a comparison of the results for 1980–82, 1984–86 and 1987–89. SMRs from malignant neoplasms are consistently low for persons born in Central and South America (males), Lebanon, Vietnam, Greece and Italy, and to a lesser extent, from Yugoslavia. Consistently moderate rates occur for those born in Australia, Germany, Netherlands, Poland and New Zealand. In contrast, the SMRs are significantly high only for persons from the United Kingdom and Ireland, although, as will be seen later, there are some birthplaces with significantly high SMRs from some components of the malignant neoplasm group (see Table 5.9).

Mortality from diseases of the circulatory system is consistently low for persons born in Central and South America, Lebanon (males), Vietnam, Greece, Italy, Netherlands and Yugoslavia. Consistently moderate SMRs occur for those born in Australia and Germany, while the SMRs are consistently high among Maltese females, Poles and Pacific Islanders (see Table 5.10 and Figures 5.3 and 5.4).

SMRs relating to the other major group of causes, accidents, poisoning and violence, are consistently low for persons from Central and South America, Lebanon, Vietnam

(males), Greece, Italy, and Malta (males), consistently moderate for those born in Australia and the United Kingdom, and consistently high among Germans, Poles, Yugoslavs and New Zealanders (see Table 5.11).

Note that, except when an SMR has been derived from pooled data for men and women, the SMRs for a given birthplace population describe the experience of its men in relation to all men in Australia, and the experience of its women in relation to the experience of all women in Australia. Therefore while women with a given birthplace may have a high SMR in relation to all women in Australia, and men with that same birthplace may have a moderate SMR in relation to all men in Australia, the age-specific mortality rates of the women with that birthplace may actually be lower than the corresponding age-specific mortality rates of the men from the same birthplace group. In other words, while a SMR of women from a given birthplace means that they have a high level of mortality in relation to all women in Australia, it does not mean that they have a high level of mortality in relation to men with that birthplace. This is illustrated in Table 5.12 in relation to mortality from diseases of the circulatory system. The Table shows the age-specific mortality rates of all birthplace groups with SMRs of 100 or more for this cause of death. Although the women from Egypt, the United States, Lebanon, Malta and Other Oceania have higher SMRs than do the men with these birthplaces, only among Lebanese women aged 65–74 years are the age-specific mortality rates from this cause of death higher than among the men with the same birthplace.

Table 5.12 also shows the high age-specific mortality rates from diseases of the circulatory system among men born in Malta, Poland, and Other Oceania at ages 45–54, 55–64, and 65–74 years, and the slightly higher mortality of those born in New Zealand. Compared with all women in Australia, age–specific mortality rates are high among those born in Poland at ages 45–54 years, among those born in Egypt, Poland and Other Oceania at ages 55–64 years, and among those born in United States, Lebanon, Malta and Other Oceania at ages 65–74 years.

5.3.6 Cause of death experience of each birthplace population

A fuller description of each birthplace's mortality experience in Australia during 1987–89 is given in Table 5.13, and the overall experience of each birthplace population is described in the following paragraphs. In this discussion, the birthplace populations have been arranged according to similar ethnic origins or mortality experience.

Australian-born

The Australian-born population tends to have SMRs just above 100 (105 for males and 104 for females in 1980–82 and 1984–86, and 103 for each in 1987–89). SMRs of the Australian-born lower than 100 occur with respect to malignant neoplasms of the respiratory system, diabetes, and some of the accidents, poisoning and violence categories, including motor vehicle traffic accidents among females in 1987–89. The relative mortality of the Australian-born is high with respect to: diseases of the respiratory system, diseases of the digestive system, and diseases of the circulatory system, especially ischemic heart disease. The 1980–82 data also show high SMRs with respect to cerebrovascular disease. Further analysis from the 1980–82 data also shows that the SMRs for the Australian-born are relatively high from diseases of the genitourinary system, especially nephritis and nephrosis.

Those born in United Kingdom and Ireland

For convenience this group will be referred to as the 'British'. As a group, they experience moderate level of mortality from all causes of death combined (96 and 98,

respectively, in 1987–89). The British have significantly high SMRs relative to the experience of all Australians with respect to malignant neoplasms of the respiratory system among both males and females, with very high rates for females. Although the 1980–82 mortality data also indicated significantly high SMRs from malignant neoplasms of the female breast, this was not evident in the 1987–89 data. However, the 1987–89 data indicate significantly high SMRs from diseases of the respiratory system among females born in Britain. Significantly lower mortality among the British-born occurs in relation to diseases of the circulatory system, including hypertensive disease, ischemic heart disease and cerebrovascular disease, and from diabetes. British males also experience significantly lower SMRs with respect to diseases of the digestive system (especially ulcer of the stomach or duodenum and liver diseases in the 1980–82 analysis). The 1980–82 data also indicated significantly low SMRs from diseases of the genitourinary system. Both men and women experience a moderate level of mortality from accidents, poisoning and violence.

Of course the British Isles group itself is quite heterogeneous, with the English generally having lower mortality than the Scots or Irish (Young 1986a). This difference is also found in Stenhouse and McCall's (1970) study of cardiovascular disease, the study of mortality from suicide and other violence by Burvill et al. (1973), and in the analysis of cancer mortality by Armstrong et al. (1983).

North Americans

While there is some variation in the experience of Canadians in Australia between 1980–82 and 1987–89, their mortality remains in the moderate zone (SMRs of 112 for males and 90 for females in 1987–89). There is somewhat more consistency in the experience of United States born men and women in Australia, with the men continuing to have lower relative mortality than the women (SMRs of 92 and 114 in 1987–89). Although North American men in Australia have a low to moderate level of mortality with respect to total malignant neoplasms, North American women have a high, but not significant, level of mortality from this group of causes. However, a combined figure for Canadian and United States born women shows a high SMR with respect to breast cancer. Both Canadian and United States men have slightly lower levels of mortality than for all Australia with respect to diseases of the circulatory system, but Canadian women appear to have lower, and United States women appear to have higher levels of mortality from this group of causes. Canadian men have significantly high SMRs from accidents, poisoning and violence and both sexes combined have a high SMR from motor vehicle traffic accidents. While United States-born men have a moderate SMR from accidents, poisoning and violence, both sexes combined have a high SMR from suicide.

South Africans

Both sexes experience significantly low mortality in Australia (SMRs of 72 and 87, respectively). The figures are too small for the calculation of SMRs for all the major cause of death groups, but the available data show significantly low mortality from malignant neoplasms among men, but moderate mortality from this group of causes among women, and high SMRs from malignant neoplasms of the digestive system among women. The SMRs are moderate to low with respect to diseases of the circulatory system. Although both sexes experience significantly low SMRs from accidents, poisoning and violence, the figures also suggest that men from South Africa have a relatively high level of suicide.

New Zealanders

Although New Zealanders in Australia have previously had lower mortality than for total Australia, in 1987–89 this situation was reversed, and their SMRs for all causes combined were 105 among men and 108 among women. A possible reason for this reversal is the higher proportion of Maoris in the migration stream from New Zealand in recent years. In New Zealand, the Maori population has considerably higher mortality than the non-Maori population (Young, 1991). Another possible explanation is, because of the wide fluctuations in the migration of New Zealanders to Australia, the base population at 30 June 1988 does not accurately reflect the New Zealand-born population at risk during 1987–89.

New Zealanders have always had significantly high SMRs from accidents, poisoning and violence, and this has continued in 1987–89, and occurs with respect to motor vehicle traffic accidents, suicide, and other violence. The main difference between the experience of New Zealanders in 1980–82 and in 1987–89 is that the women previously experienced a significantly low SMR from malignant neoplams, but now experience a significantly high SMR, with high SMRs especially from cancers of the digestive system and from breast cancer. In addition, while both sexes previously experienced significantly low SMRs from diseases of the circulatory system, they now experience a moderate level of mortality from this cause of death, with a high level from non-ischemic heart disease. However, they still continue to experience low mortality from diabetes, diseases of the digestive system , and diseases of the respiratory system.

Those born in Other Oceania

Immigrants from Other Oceania continue to experience high level of mortality in Australia (117 among males and 132 among females in 1987–89). The data which are available show that both sexes continue to have have significantly higher mortality from diseases of the circulatory system, and males from Other Oceania continue to have significantly high mortality from accidents, poisoning and violence. The 1987–89 data also reveal significantly high SMRs from diabetes. Although the 1980–82 data suggest significantly high SMRs from malignant neoplasms, the 1987–89 data indicate moderate to high levels, but with high rates for other malignant neoplasms among females.

Lebanese

Despite their low socioeconomic status and high levels of unemployment (see Chapter 4) Lebanese men continue to have one of the lowest levels of mortality in Australia (an SMR of 65 compared with a slightly higher value, but still significantly low, of 78 among women). The data show that the Lebanese in Australia have significantly low SMRs from malignant neoplasms. Both sexes also have significantly low SMRs from accidents, poisoning and violence, from diseases of the respiratory system, and from diseases of the digestive system. However, while Lebanese men have significantly low SMRs from diseases of the circulatory system, Lebanese women have relatively high SMRs from this cause of death, and for ischemic heart diseases. In this way they resemble the experience of men and women from Egypt. However, as noted earlier, although the women have high SMRs from diseases of the circulatory system in relation to all women in Australia, their age-specific mortality rates are not necessarily higher than the age-specific mortality rates for men with that birthplace. However, in the case of the Lebanese, the age-specific mortality rates for diseases of the circulatory system are higher than those for men at ages 65–74 years (see Table 5.12).

Egyptians

Men born in Egypt have significantly low SMRs from all causes combined, whereas women from Egypt have a moderate level of mortality (SMRs of 78 and 101, respectively). The different experience of women appears to be due to their relatively higher SMRs from heart disease. Although men from Egypt experience a moderate level of mortality from diseases of the circulatory system, in contrast women from Egypt experience high SMRs, and this occurs with respect to ischemic heart disease and to other diseases of the circulatory system. In this way, Egyptian women are similar to Lebanese and Maltese women in Australia. However, as pointed out in relation to Table 5.12, despite the high SMRs of Egyptian women, their age-specific mortality rates from diseases of the circulatory system are actually lower than those among Egyptian men. Both men and women from Egypt have very low SMRs from diseases of the respiratory system, from diseases of the digestive system, and from accidents, poisoning and violence, and they have moderate to low mortality from malignant neoplasms. However, the 1987–89 figures indicate that they have significantly high SMRs from diabetes.

Maltese

The Maltese differ from immigrants from other parts of southern Europe with respect to their rather higher SMRs (95 for males and 94 for females). This is related to their high SMRs for some important sets of causes. In particular, Maltese men experience significantly high SMRs from malignant neoplasms of the respiratory system, while Maltese women experience significantly high SMRs from diseases of the circulatory system, especially ischemic heart diseases. Again, as pointed out in relation to Table 5.12, and in relation to Egyptian women, despite the high SMRs of Maltese women, their age–specific mortality rates from diseases of the circulatory system are actually lower than those among Maltese men. Both experience extremely high SMRs from diabetes, a characteristic previously noted by Martin et al. (1984). Although the 1980–82 data suggested high SMRs from diseases of the respiratory system this is not apparent from the 1987–89 data. In contrast the relative level of mortality of the Maltese from diseases of the digestive system and from accidents, poisoning and violence is significantly low.

Greeks and Italians

Greeks and Italians have one of the lowest levels of mortality of any birthplace group in Australia, and this has persisted in 1980–82, 1984–86, and was also apparent in 1970–72. In 1987–89 the SMRs were 59 for males and 60 for females among Greeks, and 73 and 69 among Italians. This seems to be accounted for by their significantly low mortality from most major groups of causes of death, including: malignant neoplasms, diseases of the circulatory system, diseases of the respiratory system, diseases of the digestive system and from accidents, poisoning and violence. However other studies show that there are some smaller subgroups of diseases for which Southern Europeans have higher mortality, namely, malignant neoplasm of the stomach (McMichael et al. 1980) and diabetes (Martin et al. 1984; Young 1986). The 1987–89 data also indicate high SMRs from diabetes for Greek men, and Italian women, but not for Italian men.

Those born in Central and South America

This group of birthplaces has continued to experience low SMRs (64 for males and 69 for females in 1987–89). Both sexes have significantly lower mortality from diseases of the circulatory system, and from diseases of the respiratory system. In addition Central and South American males have significantly low SMRs from accidents, poisoning and violence (with low but not significantly low SMRs among women), and from malignant

neoplams. Central and South American women have moderate to low SMRs with respect to malignant neoplasms, and this seems to be related to their moderate levels of mortality from malignant neoplasms of the digestive system and peritoneum.

Dutch

The Dutch have consistently experienced an overall level of mortality which is significantly lower than that for all Australia (92 among men and 80 among women in 1987–89). This is a result of their significantly lower mortality from diseases of the circulatory system, especially cerebrovascular disease (from the 1980–82 data), diseases of the respiratory system, and diseases of the digestive system. The 1987–89 data also demonstrate significantly low mortality from diabetes. Significantly higher mortality than for all Australia occurs only with regard to malignant neoplasms of the respiratory system among Dutch men. Although the 1980–82 data indicated significantly high mortality from malignant neoplasms of the breast and genitourinary system among females, the 1987–89 data show only a low level of mortality from breast cancer. The Dutch experience a moderate level of mortality from accidents, poisoning and violence.

Yugoslavs

In contrast, Yugoslavs have significantly low SMRs from all causes of death combined (91 for males and 84 for females) and this is consistent with the 1980–82 and 1984–86 data. In comparison with the experience of the total population in Australia, persons from Yugoslavia have significantly higher mortality only from accidents, poisoning and violence, including the sub-categories suicide and other violence, but not motor vehicle traffic accidents. Men from Yugoslavia also experience high mortality from diseases of the digestive system. The level of mortality of Yugoslavs is significantly lower than that of the total population with respect to malignant neoplasms, but with a moderate SMR for cancers of the digestive system and peritoneum. They also experience significantly low SMRs from diseases of the circulatory system, especially ischemic heart disease; and from diseases of the respiratory system.

Germans

The overall mortality of Germans in Australia is slightly lower than for Australia as a whole (SMRs of 95 for men and 93 for women in 1987–89). As for the Australian-born, for most major causes of death they experience a moderate SMR. However, major differences between the two exist in relation to the significantly high mortality of Germans from accidents, poisoning and violence, especially suicide and other violence, from malignant neoplasms of the digestive system among males in 1980–82, and from diseases of the digestive system among women in 1987–89. The 1987–89 data also suggest high SMRs for Germans from diabetes. Significantly low SMRs occur among Germans with respect to diseases of the respiratory system (significant among males in 1980–82 and with respect to both sexes in 1987–89).

Poles

Poles in Australia are unusual in being one of the few birthplaces which have overall SMRs as high or higher than those for the Australian-born (108 for males and 102 for females in 1987–89). Both Polish males and females have significantly high mortality from diseases of the circulatory system, especially ischemic heart disease. Polish men have significantly high mortality from diseases of the digestive system, and as a group, in 1980–82, Eastern Europeans had significantly high SMRs from cirrhosis and other

liver diseases (Young 1986). The 1987–89 data also suggest high mortality among Poles from diabetes, especially among women. Also, among Poles, both sexes have significantly high mortality from accidents, poisoning and violence. This is associated with a significantly high mortality from other violence, especially suicide, but also from road traffic accidents. Polish males have a significantly higher mortality from malignant neoplasms of the digestive system and peritoneum. Although in 1980–82 Polish females had a high SMR in relation to malignant neoplasms of the breast and genitourinary system, they had a low SMR with respect to breast cancer in 1987–89. The one major cause of death category where Poles have significantly lower mortality than for all Australia is from diseases of the respiratory system.

Scandinavians

These could not be studied in the 1987–89 analysis, and the numbers of deaths were too small for a detailed analysis of the mortality experience of Scandinavians in Australia in 1980–82. However, the available data suggest that they may have higher mortality from diseases of the respiratory system, diseases of the digestive system, and from accidents, poisoning and violence, especially road traffic accidents (Young 1986). In addition, Armstrong et al. (1983) found that during 1962–71 Scandinavian women in Australia had significantly high SMRs from cancers of the breast and from cancers of the genitourinary system, while both sexes had significantly high SMRs from cancers of the stomach and pancreas. Burvill et al. (1973) also found high suicide rates among Scandinavians in Australia, especially among men.

Asians

When looked at as a combined group, those from Asia have a significantly lower mortality compared with the total Australian population for several of the main causes of death. These are: malignant neoplasms, diseases of the circulatory system, diseases of the respiratory system, diseases of the digestive system, and from accidents, poisoning and violence, including suicide. However, the data suggest moderate rather than low SMRs from motor vehicle traffic accidents among females, and high SMRs from diabetes. There is also some suggestion that the total Asian group may experience high mortality from rheumatic heart disease (Young 1986). However, as with Europe, the Asian group is diverse, and therefore the component countries will be considered separately.

South Asians (Bangladesh, India, Iran, Pakistan, Sri Lanka Afghanistan, Bhutan, Nepal)

From the 1980–82 data, those from South Asia had high SMRs from diseases of the circulatory system. They had significantly low mortality from malignant neoplasms among men, but moderate levels among women, with high rates for genitourinary and breast cancer. South Asian males also had low SMRs from diseases of the respiratory system, and significantly low mortality from accidents, poisoning and violence but moderate mortality from the other component, other accidents.

Indians

Although Indians in Australia had SMRs in 1980–82 which were near 100, the 1987–89 data suggest both men and women from India in Australia now have significantly low SMRs (83 and 83, respectively). The age-specific mortality rates suggest that this is largely due to a decline in mortality at the older ages, 45–74 years. Males have significantly low SMRs from malignant neoplasms, and women have low SMRs from all

malignant neoplasms combined, although moderate levels for cancers of the digestive system and for breast cancer. Indians have low to moderate levels of mortality from heart disease, from diseases of the respiratory system, and from diseases of the digestive system. Although they have low SMRs for the total cause of death group, accidents, poisoning and violence, there is some evidence that they have somewhat higher mortality from motor vehicle traffic accidents. The figures also suggest that persons from India have high SMRs from diabetes.

East Asians (China, Hong Kong and Macau, Japan, Democratic Republic of Korea, Republic of Korea, and Taiwan)

The 1980–82 data indicated that East Asians had significantly low SMRs from diseases of the circulatory system and from diseases of the respiratory system. Men from East Asia had moderate mortality from accidents, poisoning and violence, high SMRs and from malignant neoplasms of the digestive system (males) but significantly low SMRs from malignant neoplasms of the respiratory system. Armstrong et al. (1983) and Zhang et al. (1984) also found that East Asian males in Australia had significantly higher mortality from cancer of the nasopharynx.

Chinese

Both Chinese men and Chinese women have significantly low SMRs from all causes combined (74 and 83). Overall the Chinese have a moderate level of mortality from malignant neoplasms, but within this broad group men have relatively high SMRs from cancers of the digestive system, and women have very high SMRs from cancers of the respiratory system. However, the Chinese have significantly low SMRs from diseases of the circulatory system, although a moderate level of mortality from other heart disease among men. They also have significantly low SMRs from diseases of the respiratory system and low SMRs from diseases of the digestive system. Although Chinese men have moderate SMRs from accidents, poisoning and violence, the figures suggest that Chinese women have a very high SMR from this group, and that this is largely due to their high SMRs from motor vehicle traffic accidents.

Those born in Hong Kong and Macao

Because of the relatively small numbers of deaths among this birthplace group, it is not possible to comment in detail on their experience. However, their overall significantly low SMRs (51 and 56, respectively), are also reflected in their significantly low mortality from diseases of the circulatory system and from accidents, poisoning and violence, and their low mortality from malignant neoplasms. Overall, this birthplace group appears to have lower mortality than the Chinese.

South-East Asians (Burma, Indonesia, Kampuchea, Laos, Malaysia and Brunei, Philippines, Singapore, Thailand, Timor, and Vietnam)

Overall those from South-East Asia appear to have the lowest SMRs among the three Asian groups, the exception being deaths from accidents, poisoning and violence among females. From the 1980–82 data, those from South-East Asia had significantly lower mortality from malignant neoplasms of the respiratory system, significantly low mortality from diseases of the circulatory system, including ischemic heart disease and cerebrovascular diseases, and significantly low mortality from diseases of the respiratory system. Among men the SMRs were significantly low for accidents, poisoning and violence, including road traffic accidents and other violence, but the women experienced high SMRs from this group of causes.

Malaysians

Although the 1980–82 figures suggested that only men from Malaysia had significantly low mortality, the 1987–89 figures suggest that both men and women from Malaysia experience significantly low mortality in Australia (62 and 72, respectively). This low mortality seems to be related to significantly low SMRs from diseases of the circulatory system, and to low SMRs from malignant neoplasms, although there is a higher SMR from cancers of the digestive system. However, although men from Malaysia have significantly low SMRs from accidents, poisoning and violence, the women have moderate SMRs from this group of causes, and this seems to related to their high SMRs from motor vehicle traffic accidents. The numbers are too small to be able to comment on the other major cause of death groups.

Filipinos

Men and women from the Philippines experience significantly low SMRs in Australia (64 and 74, respectively), and this is consistent with the 1980–82 data. They experience low SMRs from malignant neoplasms, and low SMRs from diseases of the circulatory system. As occurs with those from Malaysia, Filipino men experience significantly low mortality from accidents, poisoning and violence, but Filipino women experience a moderate level, and the figures suggest relatively high mortality from motor vehicle traffic accidents. Again, the numbers are too small to be able to comment on the other major cause of death groups.

Vietnamese

This birthplace group is now one of the largest of the minority groups in Australia, and so its level of mortality is of special interest. Vietnamese men and women in Australia have significantly low SMRs (59 and 57, respectively), and this is consistent with their low SMRs observed in 1980–82 and in 1984–86. They have significantly low mortality from diseases of the circulatory system, and significantly low mortality from diseases of the respiratory system. Their overall mortality from malignant neoplasms is low, but within this group the men have significantly high SMRs from cancers of the digestive system. While their overall mortality from motor vehicle traffic accidents is also low, they experience moderate levels of mortality from other accidents, poisoning and violence.

Summary of cause of death analysis

To summarise, Table 5.14 lists those birthplaces which experience high (SMR from 110 to 129) or very high (SMR of 130 or more) mortality during 1987–89 with respect to the major causes of death. High SMRs occur with respect to malignant neoplasms of the digestive system and peritoneum for South African and New Zealand women, and for Chinese, Maltese and Polish men. High mortality from malignant neoplasms of the respiratory system occur among those from Malta, the Netherlands and the United Kingdom, while high SMRs from breast cancer occur among women from Canada, the United States and New Zealand.

Mortality from heart disease is high among those from Poland, New Zealand and Other Oceania, and for women from Egypt, Lebanon and Malta (in relation to all women in Australia). Diabetes accounts for only a small proportion of total deaths, but it shows the widest variation between birthplace groups, and is of particular concern with regard to those from Mediterranean Europe (Greece, Italy, Malta) and Egypt, with the addition of Germany, Poland, India and Other Oceania.

High mortality from diseases of the respiratory system occurs only among those from the United Kingdom, while high SMRs from diseases of the digestive system are confined to those from Central and Eastern Europe: Germany, Poland and Yugoslavia.

Excess mortality from accidents, poisoning and violence occurs among those with an Anglo-Celtic background: South Africa, Canada, the United States and New Zealand, and also among those from Central and Eastern Europe (Germany, Poland and Yugoslavia). High SMRs from this group of causes also occurs among the Chinese and among those from South-East Asia—notably Malaysia and the Philippines.

However, while highlighting those disease conditions which are of special concern among some immigrants, it is important not to forget the significantly low levels of mortality experienced by most ethnic groups in Australia, in terms of both overall mortality and in terms of some of the major causes of death, notably heart disease.

Overall summary

Most birthplace populations experience lower mortality over the age range 15–74 years than occurs for total Australia, and this usually is related to their lower mortality from diseases of the circulatory system (Young 1987). Those birthplace populations which have higher mortality than for the total Australia also usually have higher mortality from heart disease, especially those from Poland and Other Oceania.

A comparison of data for the three periods 1980–82, 1984–86 and 1987–89 confirms the low mortality of several of the major birthplace populations in Australia, notably among those from Greece, Italy, Lebanon (males), Central and South America, Vietnam and Yugoslavia.

It is of interest to note that some of the major immigrant groups with the lowest level of mortality in Australia are also those with the lowest socioeconomic status, as measured in terms of their income, occupation and level of unemployment. This phenomenon occurs among those from Greece, Lebanon and Vietnam, and to a lesser extent from Yugoslavia. Certainly socioeconomic disadvantage will cause more difficulty for that family or individual in coping with a serious illness or accident, but socioeconomic disadvantage for the birthplace as a whole does not necessarily mean a higher level of mortality. It is interesting to speculate whether their level of mortality would be even lower if their socioeconomic status were higher or whether other compensating factors might operate.

The age-specific mortality rates of each birthplace population generally show a decrease between 1980–82 to 1987–89, thus indicating a general improvement in survival among most birthplace groups in Australia over time.

There is relatively little change in the level of mortality of a birthplace group with increasing duration of residence in Australia. Although some increases are observed, which might reflect some convergence to the level of mortality of the total population in Australia, such increases might instead, or also, reflect some convergence to the level of mortality in the country of origin. With few exceptions most birthplace populations in Australia experience lower mortality than occurs in the countries of origin.

Each birthplace group generally experiences a unique cause of death profile in Australia, which is related to the cause of death profile in the country of origin, diet, lifestyle and the interaction with the new environment. For example, Powles and Gifford (1990) suggest that the significantly low mortality of Greeks and Italians from most major causes of death, particularly heart disease, is related to their diet. Suicide as a cause of

death is relatively more common among immigrant populations from countries with high levels of suicide, for example, among Scandinavians, Germans and Eastern Europeans. Cancers and other diseases of the digestive system, which are believed to be linked to diet and alcohol consumption, are common among Hungarians, Poles, Scots and Germans. The Australian-born have relatively high SMRs from heart disease, diseases of the respiratory system and diseases of the genitourinary system, possibly related to their diet and lifestyle.

Diet and nutrition seem to be important components of health status and survival, and the too vigorous adoption of the high sugar and high fat diets of western societies is thought to be a major factor in the deleterious effect of the 'good life' on some populations, notably those from the Pacific Islands (Zimmet et al., 1990). Webb and Manderson (1990) suggest that there is a need to inform immigrants which components of the Australian diet should be avoided and which are the beneficial components of their own diets which should be retained. They also see the value of a universal nutrition policy for all Australia, rather than a series of small scale ethnically specific programs.

While it is common for those writing about immigrant health to highlight the disadvantages (Reid & Trompf 1990), this analysis also points out their advantage with respect to survival from some of the major causes of death. The denial of the health and survival advantages experienced by ethnic groups, and the failure to learn from their lifestyle and means of coping with illness, is a waste of the opportunities provided by a diverse ethnic population for improving the wellbeing and survival of all Australians.

An empirical analysis of deaths and population data removes some of the conjecture about whether the overseas-born population in Australia has a higher or lower level of survival compared with the Australian-born population. At the same time there is scope for speculation about the reasons for anomalies between the mortality data and other findings relating to morbidity, perceived health status and the demand for health services. It would seem that although the level of mortality for a given birthplace population is lower than for the Australian-born population, the expenditure on health and medical services per head could well be higher, because the demand for such services is affected by other factors, such as language, socioeconomic status, attitudes and expectations.

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Table 5.1: *Birthplace populations studied in the 1987–89 analysis of mortality*

Australia	
Africa	**Europe**
Egypt	Germany
South Africa	Greece
Other Africa	Italy
America	Malta
Canada	Netherlands
United States	Poland
Other America	United Kingdom & Ireland
Asia	USSR
China	Other Europe
Hong Kong and Macao	**Oceania**
India	New Zealand
Lebanon	Other (excluding Australia)
Malaysia	
Philippines	
Vietnam	
Other Asia	

Table 5.2: *Standardised mortality ratios (SMRs) of birthplace groups in Australia at ages 15–74 years, according to mortality experience during 1987–89*

Birthplace	SMR 15–74 Males	SMR 15–74 Females
Hong Kong and Macao	51*	56*
Vietnam	59*	57*
Greece	59*	60*
Malaysia	62*	72*
Philippines	64*	74*
Central and South America	64*	69*
Lebanon	65*	78*
Other Asia	70*	76*
Other Africa	71*	62*
South Africa	72*	87
Italy	73*	69*
China	74*	83*
Egypt	78*	101
India	83*	83*
Yugoslavia	91*	84*
United States	92	114
Netherlands	92*	80*
Malta	95	94
Germany	95	93*
United Kingdom and Ireland	96*	98
Other Europe	99	92*
USSR	103	92
Australia	103*	103*
New Zealand	105	108*
Canada	106	90
Poland	108*	102
Other Oceania	117*	132*

* Indicates that the SMR is significantly different from 100 at the 5% level of significance.

Source: Australian Bureau of Statistics (1990) *Estimated Resident Population by Country of Birth Age and Sex: Australia, June 1988*, Cat. No. 3221.0, and special tabulations from the Australian Bureau of Statistics of deaths registered during 1987, 1988 and 1989.

Table 5.3: *Standardised mortality ratios (SMRs) for each birthplace group in Australia at 1980–82, 1984–86 and 1987–89*

	Males			Females		
Birthplace	**1980–82**	**1984–86**	**1987–89**	**1980–82**	**1984–86**	**1987–89**
Australia	105*	105	103*	104*	104	103*
Egypt	98		78*	108		101
Mauritius	76*			98		
South Africa	81*		72*	85		87*
Canada	100		106	112		90
United States	88		92	108		114
Central & South America	60		64*	67*		69*
China	85*		74*	79*		83*
Hong Kong & Macao	68*		51*	85		56*
India	102		83*	106		83*
Indonesia	78*			107		
Lebanon	64*	67	65*	84	71	78*
Malaysia	66*		62*	99		72*
Philippines	53*		64*	73		74*
Singapore	77			64		
Sri Lanka	90			94		
Turkey	91			105		
Vietnam	48*	66	59*	64*	49	57*
Austria	91			81*		
Cyprus	55*			50*		
Czechoslovakia	111			116		
Denmark	91			86		
Finland	159*			108		
France	90			87		
Germany	100	82	95	99	74	93*
Greece	63*	66	59*	60*	72	60*
Hungary	105			97		
Italy	63*	75	73*	67*	72	69*
Latvia	104			88		
Malta	90*		95	99		94
Netherlands	86*	75	92*	82*	63	80*
Poland	106*	89	108*	112*	91	102
Portugal	58*			53*		
Spain	70*			48*		

(continued)

Table 5.3: *Standardised mortality ratios (SMRs) for each birthplace group in Australia at 1980–82, 1984–86 and 1987–89* (continued)

Birthplace	Males			Females		
	1980–82	1984–86	1987–89	1980–82	1984–86	1987–89
United Kingdom & Ireland	94*	92	96*	95*	100	98
England & Wales	88*			89*		
Ireland	111*			108		
Scotland	118*			118*		
Ukraine	93			96		
USSR	98		103	101		92
Yugoslavia	85*	85	91*	86*	77	84*
New Zealand	94	81	105	86*	87	108*
Other Oceania	144*		117*	134*		132*

* Indicates that the SMR is significantly different from 100 at the 5% level of significance. Significance tests were not done with the 1984–86 data.

Source: Australian Bureau of Statistics, 1981 Census and deaths recorded during 1980–82, 1986 Census and deaths recorded during 1984–86, and 1988 resident population and deaths recorded during 1987–89. See Young (1986) and Australian Bureau of Statistics (1989).

Table 5.4: *Ratios of age-specific death rates (ASDR) for each birthplace to the corresponding ASDR for total Australia, males, 1987–89*

Birthplace	Age group in years						SMR
	15–24	25–34	35–44	45–54	55–64	65–74	
Australia	1.01	1.03	1.06	1.08	1.05	1.02	103
Egypt	x	x	0.77	0.81	0.63	0.86	78
South Africa	0.86	x	0.48	0.35	0.71	0.92	72
Other Africa	x	0.90	0.60	0.62	0.71	0.72	71
United States	1.00	1.13	0.80	0.91	0.90	0.88	92
Central & South America	0.40	0.69	0.41	0.64	0.69	0.74	64
China	x	0.98	0.84	0.65	0.72	0.76	74
India	x	0.94	0.89	0.81	0.80	0.86	83
Lebanon	0.60	0.45	0.53	0.76	0.68	0.61	65
Malaysia	0.50	0.41	0.57	0.61	0.71	0.71	62
Philippines	x	x	0.50	0.67	0.80	0.60	64
Vietnam	0.94	0.67	0.65	0.46	0.37	0.42	59
Other Asia	0.64	0.78	0.60	0.64	0.64	0.77	70
Germany	1.50	1.41	1.12	0.84	0.87	0.92	95
Greece	x	0.43	0.57	0.59	0.55	0.63	59
Italy	0.74	0.69	0.72	0.69	0.71	0.72	73
Malta	x	1.24	0.67	1.06	0.84	1.01	95
Netherlands	x	0.83	0.86	0.85	0.90	0.97	92
Poland	x	0.76	0.95	1.42	1.37	1.01	108
UK & Ireland	1.10	0.95	0.86	0.85	0.97	0.98	96
Yugoslavia	0.98	0.80	1.02	1.01	0.77	0.86	91
Other Europe	1.27	1.02	1.20	1.06	0.94	0.92	99
New Zealand	1.45	1.07	1.11	1.01	1.02	0.92	105
Other Oceania	0.82	1.21	1.33	1.13	1.44	1.01	117
Total Australia	1.00	1.00	1.00	1.00	1.00	1.00	100

x Fewer than 10 deaths; ratio not calculated.

Source: Derived from data provided by the Australian Bureau of Statistics. Estimated resident population at 30 June 1988, and special tabulations of deaths during 1987–89.

Table 5.5: *Age-specific mortality rates for the largest birthplace groups in Australia, males 1980–82, 1986, 1987–89*

Birthplace	Age group in years						
	15–24	25–34	35–44	45–54	55–64	65–74	SMR
Australia							
1980–82	1.6	1.5	2.5	7.4	17.9	43.9	105
1986	1.4	1.4	2.0	5.5	15.4	38.0	105
1987–89	1.1	1.3	1.7	4.4	12.8	32.2	103
Germany							
1980–82	1.6	1.6	2.3	5.9	16.0	41.2	100
1986	1.7	1.9	1.4	4.6	12.2	38.8	82
1987–89	1.7	1.8	1.8	3.4	10.6	28.9	95
Greece							
1980–82	x	0.6	1.2	3.4	9.6	33.0	63
1986	0.7	1.0	1.2	2.8	6.5	25.7	66
1987–89	x	0.5	0.9	2.4	6.8	19.9	59
Italy							
1980–82	0.6	0.8	1.2	3.8	9.5	29.1	63
1986	1.0	0.6	1.5	3.8	10.4	30.3	75
1987–89	0.8	0.9	1.2	2.8	8.7	22.5	73
Netherlands							
1980–82	2.0	1.2	1.8	4.5	14.5	36.5	86
1986	0.5	1.5	1.7	6.5	19.3	41.0	75
1987–89	x	1.0	1.4	3.5	11.0	30.3	92
UK & Ireland							
1980–82	1.4	1.3	1.7	5.5	15.4	42.0	94
1986	1.5	1.2	1.6	4.3	14.6	36.4	92
1987–89	1.3	1.2	1.4	3.5	11.8	30.8	96
Yugoslavia							
1980–82	0.8	1.2	2.1	5.2	13.0	35.0	85
1986	0.8	1.2	2.2	4.7	12.9	36.5	85
1987–89	1.1	1.0	1.7	4.2	9.4	27.0	91
New Zealand							
1980–82	2.4	1.8	2.4	5.4	11.0	37.0	94
1986	1.4	2.0	2.1	4.5	12.1	32.1	81
1987–89	1.7	1.3	1.8	4.1	12.5	29.0	105

x Indicates fewer than 10 deaths during 1987–89, or fewer than 15 deaths during 1980–82, therefore ratio not calculated.

Source: Australian Bureau of Statistics, 1981 Census and deaths recorded during 1980–82, 1986 Census and deaths recorded during 1984–86, and 1988 resident population and deaths recorded during 1987–89. See Young (1986) and Australian Bureau of Statistics (1989).

Table 5.6: *Standardised mortality rates according to duration of residence, males, 1980–82 and 1986*

Birthplace	1980–82		1986	
	All	15+ years	All	15+ years
Egypt	98	102		
South Africa	81*	86		
Canada	100	93		
United States	88	104		
Central & South America	60*	77		
China	85*	91		
India	102	114*		
Lebanon	64*	58*	66	66
Malaysia	66*	69		
Sri Lanka	90	85		
Turkey	91	105		
Vietnam	48*	x	50	144(a)
Czechoslovakia	111	113		
France	90	85		
Germany	100	98	82	82
Greece	63*	65*	66	64
Hungary	105	103	75	75
Italy	63*	64*	75	75
Malta	90*	91		
Netherlands	86*	86	75	75
Poland	106*	106*	89	89
Spain	70*	61*		
United Kingdom & Ireland	94*	97*	92	94
England & Wales	88*	91*		
Scotland	118*	117*		
Ireland	111*	115*		
Yugoslavia	85*	88*	85	85
New Zealand	94	101	81	89
Other Oceania	144*	126*		

* Indicates that the SMR is significantly different from 100 (the value for total Australia) at the 5% level of significance. Significance tests were not carried out with the 1986 data.
x Indicates too few numbers to warrant the calculation of an SMR.
(a) This figure is based on small numbers and may be unreliable.

Source: Australian Bureau of Statistics, 1981 Census and deaths recorded during 1980–82 and 1986 Census and deaths recorded during 1986 only. See Young (1986) and Australian Bureau of Statistics 1989).

Table 5.7: *Standardised mortality rates according to duration of residence, females, 1980–82 and 1986*

Birthplace	1980–82		1986	
	All	15+ years	All	15+ years
Egypt	108	106		
South Africa	85	97		
Canada	112	129*		
United States	108	123		
Central & South America	67*	76		
China	79*	95		
India	106	119		
Lebanon	84	87	71	75
Malaysia	99	x		
Sri Lanka	94	90		
Turkey	105	134		
Vietnam	64*	x		
Czechoslovakia	116	114		
France	87	97		
Germany	99	99	74	73
Greece	60*	63*	72	73
Hungary	97	100		
Italy	67*	67*	72	71
Malta	99	104		
Netherlands	82*	83*	63	62
Poland	112*	118*	91	93
Spain	48*	57*		
United Kingdom & Ireland	95*	98	100	103
England & Wales	89*	92*		
Scotland	118*	121*		
Ireland	108	112*		
Yugoslavia	89*	96	77	83
New Zealand	86*	101	87	108
Other Oceania	134*	129		

* Indicates that the SMR is significantly different from 100 (the value for total Australia) at the 5% level of significance. Significance tests were not carried out with the 1986 data.
x Indicates too few numbers to warrant the calculation of an SMR.

Source: Australian Bureau of Statistics, 1981 Census and deaths recorded during 1980–82 and 1986 Census and deaths recorded during 1986 only. See Young (1986) and Australian Bureau of Statistics (1989).

Table 5.8: *Sets of causes used in the cause of death analysis 1980–82, 1984–86 and 1987–89*

Cause of death[a]	1980–82[b] a	1980–82[b] b	1984–86	1987–89
Malignant neoplasms (140–208)	•	•	•	•
Digestive organs & peritoneum (150–159)	•	•		•
Respiratory & intrathoracic organs (160–165)	•	•		•
Female breast (174)	•	•		•
Genitourinary organs (179–189)	•	•		
Lymphatic & haematopoietic tissue (200–208)	•			
Diabetes (250)	•			•
Alcoholism and drug dependence (303 and 304)	•			
Diseases of the circulatory system (390–459)	•	•	•	•
Rheumatic fever & rheumatic heart disease (390–398)	•			
Hypertensive disease (401–405)	•	•		
Ischaemic heart disease (410–414)	•	•	•	•
Cerebrovascular disease (430–438)	•	•		
Atherosclerosis (440)	•			
Diseases of the respiratory system (460–519)	•	•	•	•
Pneumonia & influenza (480–487)	•			
Bronchitis, emphysema & asthma (490–493) including chronic obstructive airways disease (496)	•			
Diseases of the digestive system (520–579)	•	•	•	•
Ulcer of stomach & duodenum (531–533)	•			
Chronic liver disease & cirrhosis (571)	•			
Diseases of the genitourinary system (580–629)	•			
Nephritis, nephrotic syndrome & nephrosis (580–589)	•			
Accidents, poisoning & violence (E800–E999)	•	•	•	•
Road traffic accidents (E810–E829)	•	•		
Motor vehicle traffic accidents (E810–E819)				•
Accidental falls (E880–888)	•			
All other accidents (Remainder of E800–E949)	•	•		
Suicide (E950–E959)	•			•

(a) From International Classification of Diseases, Ninth Revision.
(b) Two sets of causes of death were used in the 1980–82 analysis.

Table 5.9: *Standardised mortality ratios (SMRs) (Cause of death: malignant neoplasms) for each birthplace group in Australia at 1980–82, 1984–86 and 1987–89*

	Males			Females		
Birthplace	**1980–82**	**1984–86**	**1987–89**	**1980–82**	**1984–86**	**1987–89**
Australia	102*	103	102*	101*	102	101*
Egypt			74*			89
South Africa			71*			109
Canada	70*[(a)]		103		124[(a)]	115
United States			82			108
Central & South America	51*		69*	80		84
China			87			107
Hong Kong & Macao			80			75
India			71*			86
Lebanon	53*	42	64*	83	65	66*
Malaysia			80			86
Philippines			71			72*
Vietnam		55	75*		76	78
Germany	101		93	101		99
Greece	77*	61	61*	76*	79	67*
Italy	80*	82	85*	68*	75	73*
Malta	103		106	79		83
Netherlands	102		110	97		81*
Poland	99		100	97		97
UK & Ireland	108*	108	105*	113*	111	109*
Yugoslavia	86*	95	93	93	79	85*
New Zealand	90	74	90	83*	82	115*
Other Oceania	144*	92	102	161*	116	96

* Indicates that the SMR is significantly different from 100 at the 5% level of significance. Significance tests were not done with the 1984–86 data.
(a) Combined figure for Canada and the United States.
Blanks indicate that data were not compiled for the calculations.

Source: Australian Bureau of Statistics, 1981 Census and deaths recorded during 1980–82, 1986 Census and deaths recorded during 1984–86, and 1988 resident population and deaths recorded during 1987–89. See Young (1986) and Australian Bureau of Statistics (1989).

Table 5.10: *Standardised mortality ratios (SMRs) (Cause of death: diseases of the circulatory system) for each birthplace group in Australia at 1980–82, 1984–86 and 1987–89.*

	Males			Females		
Birthplace	**1980–82**	**1984–86**	**1987–89**	**1980–82**	**1984–86**	**1987–89**
Australia	106*	105	103*	105*	105	104*
Egypt			90			122
South Africa			89			85
Canada	98[(a)]	96[(a)]	96	107[(a)]	94[(a)]	66
United States			96			109
Central & South America	61*	57	54*	38*	58	69*
China			62*			61*
Hong Kong & Macao			33*			
India			92			80
Lebanon	76*	79	80*	92	87	118
Malaysia			71*			59*
Philippines			81			56*
Vietnam		25	30*		39	35*
Germany	99		95	92		90
Greece	65*	56	62*	53*	64	55*
Italy	53*	59	67*	65*	63	68*
Malta	89		103	122*		124*
Netherlands	84*		91*	74*		84*
Poland	112*		124*	128*		117*
UK & Ireland	90*	93	92*	84*	93	91*
Yugoslavia	77*	77	87*	74*	74	79*
New Zealand	79*	89	109	77*	83	105
Other Oceania	131*	114	137*	111	112	165*

* Indicates that the SMR is significantly different from 100 at the 5% level of significance. Significance tests were not done with the 1984–86 data.
(a) Combined figure for Canada and the United States.
Blanks indicate that data were not compiled for the tabulations.

Source: Australian Bureau of Statistics, 1981 Census and deaths recorded during 1980–82, 1986 Census and deaths recorded during 1984–86, and 1988 resident population and deaths recorded during 1987–89. See Young (1986) and Australian Bureau of Statistics (1989).

Table 5.11: *Standardised mortality ratios (SMRs) (Cause of death: accidents, poisoning and violence) for each birthplace group in Australia at 1980–82, 1984–86 and 1987–89*

	Males			Females		
Birthplace	**1980–82**	**1984–86**	**1987–89**	**1980–82**	**1984–86**	**1987–89**
Australia	102*	102	101	100	101	100
Egypt			60*			x
South Africa			66*			x
Canada	117[a]	107[a]	143*	x	108[a]	x
United States	x		108	x		x
Central & South America	81	61	67*	x	65	x
China			105			x
Hong Kong & Macao			44*			x
India			82			x
Lebanon	60*	37	45*	x	34	19*
Malaysia			45*			x
Philippines			32*			101
Vietnam		62	79*		130	77
Germany	127*		127*	140*		107
Greece	50*	55	59*	63*	72	86
Italy	69*	74	85*	69*	65	81
Malta	66*		63*			x
Netherlands	86		92	85		89
Poland	154*		118	167*		144*
UK & Ireland	93*	99	96	93	98	93
Yugoslavia	114	119	114*	132*	113	125
New Zealand	145*	129	129*	120	96	137*
Other Oceania	135*	114	104	x	55	x

* Indicates that the SMR is significantly different from 100 at the 5% level of significance. Significance tests were not done with the 1984–86 data.
(a) Combined figure for Canada and the United States.
x Numbers too small for the calculation of SMRs.
Blanks indicate that data were not compiled for the calculations.

Source: Australian Bureau of Statistics, 1981 Census and deaths recorded during 1980–82, 1986 Census and deaths recorded during 1984–86, and 1988 resident population and deaths recorded during 1987–89. See Young (1986) and Australian Bureau of Statistics (1989).

Table 5.12: *Age-specific mortality rates of birthplace populations in Australia for diseases of the circulatory system, when the SMRs are above 100. 1987–89*

Birthplace		Age group in years				
		35–44	45–54	55–64	65–74	SMR
		Rates per 100,000				
Australia	Males	4.0	16.4	53.1	152.5	103
	Females	1.4	5.7	20.4	77.0	104
Egypt	Males	x	x	44.4	153.3	90
	Females	x	x	27.0	62.1	122
United States	Males	x	x	48.7	141.9	96
	Females	x	x	x	109.6	109
Lebanon	Males	x	15.4	41.8	86.1	80
	Females	x	x	18.6	104.0	118
Malta	Males	x	19.4	40.9	164.5	103
	Females	x	x	12.3	114.4	124
Poland	Males	x	25.1	83.6	169.0	124
	Females	x	8.9	27.7	74.3	117
New Zealand	Males	x	17.0	57.2	155.8	109
	Females	x	6.2	18.0	78.6	105
Other Oceania	Males	x	20.7	77.8	169.2	137
	Females	x	x	46.0	104.1	165
Total Australia	Males	3.7	15.0	51.0	148.4	100
	Females	1.3	5.0	19.2	74.7	100

x Fewer than 10 deaths; ratio not calculated.

Source: Derived from data provided by the Australian Bureau of Statistics. Estimated resident population at 30 June 1988, and special tabulations of deaths during 1987 to 1989.

Table 5.13: *Level of SMR for selected causes of death and for selected birthplaces, Australia, 1987–89*

Birthplace	Malignant neoplasms	Diseases of the circulatory system	Diabetes	Diseases of the respiratory system	Diseases of the digestive system	Accidents, poisoning & violence
Australia	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate
Egypt	Low Moderate: female breast	Moderate: m High: f	Very high	Very low	Very low	Very low
South Africa	Low: m Moderate: f Very high: digestive & peritoneum f	Low Moderate: ischemic m	na	na	na	Very low Very high: suicide m
Canada	Moderate: m High: f Very high: female breast	Moderate: m Very low: f	na	na	na	Very high
United States	Low: m Moderate: f Very high: female breast	Moderate. Low: other m	na	Very low	na	Moderate. High: suicide
Central & South America	Low Moderate: digestive & peritoneum Very low: respiratory	Very low	na	Very low	na	Very low
China	Low: m Moderate: f High: digestive & peritoneum m High: respiratory & other f Very low: female breast	Very low Moderate: other m	na	Very low	Low	Moderate: m Very high: f High: motor vehicle
Hong Kong & Macao	Low	Very low	na	na	na	Very low
India	Low Moderate: digestive & peritoneum f Moderate: female breast	Moderate: m Low: f Moderate: ischemic f Very low: other f	Very high	Low	Very low	Low Moderate: motor vehicle m

(continued)

Table 5.13: *Level of SMR for selected causes of death and for selected birthplaces, Australia, 1987–89* (continued)

Birthplace	Malignant neoplasms	Diseases of the circulatory system	Diabetes	Diseases of the respiratory system	Diseases of the digestive system	Accidents, poisoning & violence
Lebanon	Very low	Low: m High: f	na	Very low	Very low	Very low
Malaysia	Low Moderate: digestive & peritoneum	Low	na	na	na	Very low Very high: motor vehicle f [(a)]
Philippines	Low Moderate: other f	Low: m Very low: f	na	na	na	Very low: m Moderate: f Very high: motor vehicle f [(a)]
Vietnam	Low Very high: digestive & peritoneum m Very low: respiratory	Very low	na	Very low	na	Low Moderate: other
Germany	Moderate	Moderate	Very high	Very low	Moderate: m High: f	High: m Moderate: f High: motor vehicle High: suicide, other
Greece	Very low	Very low	High: m	Very low	Very low	Very low
Italy	Low Moderate: respiratory m	Very low	Low: m Very high: f	Very low	Low	Low
Malta	Moderate: m Low: f Very high: respiratory m Moderate: female breast	Moderate: m High: f	Very high	Moderate	Very low	Very low
Netherlands	Moderate: m Low: f Very high: respiratory m Moderate: female breast	Moderate: m Low: f	Very low	Very low	Very low	Moderate

(continued)

Table 5.13: *Level of SMR for selected causes of death and for selected birthplaces, Australia, 1987–89* **(continued)**

Birthplace	Malignant neoplasms	Diseases of the circulatory system	Diabetes	Diseases of the respiratory system	Diseases of the digestive system	Accidents, poisoning & violence
Poland	Moderate High: digestive & peritoneum Very low: respiratory f Low: female breast	High	Very high	Very low	High: m Moderate: f	High: m Very high: f
United Kingdom & Ireland	Moderate High: respiratory m Very high: respiratory f	Moderate	Low	Very low	Moderate: m High: f	High: m Moderate: motor vehicle High: suicide f
Yugoslavia	Moderate: m Low: f	Low Moderate: other m	Low	Very low	High: m Moderate: f	High Moderate: motor vehicle High: suicide f
New Zealand	Moderate: m High: f Very high: digestive & peritoneum f High: female breast	Moderate High: other	Very low	Low: m Moderate: f	Low	Very high
Other Oceania	Moderate Very high: other f	High	Very high	na	na	Moderate: m High: f High: motor vehicle

m = male, f = female.
na = not available
(a) Malaysia and Philippines combined.
The level of the SMR for the major cause of death group is given first. If the level is different for males and females, then this is indicated. If the level is different for any of the components within the major cause of death group, then this is also indicated.

Very low indicates an SMR less than 70. Low indicates an SMR 70 to 89. Moderate indicates an SMR 90 to 110. High indicates SMR 111 to 129. Very high indicates an SMR of 130 or more.

Table 5.14: *Major cause of death categories and birthplaces with a high or very high SMR, 1987–89*

Malignant neoplasms	
South Africa	very high: digestive & peritoneum (females)
Canada	high: females
Canada & USA combined	very high: female breast
China	high: digestive & peritoneum (males)
	high: respiratory and other (females)
Vietnam	very high: digestive & peritoneum (males)
Malta	very high: respiratory (males)
Netherlands	very high: respiratory (males)
Poland	high: digestive & peritoneum (males)
United Kingdom & Ireland	high, very high: respiratory (males & females)
New Zealand	very high: digestive & peritoneum (females)
	high: female breast
Diseases of the circulatory system	
Egypt	high: females
Lebanon	high: females
Malta	high: females
Poland	high
New Zealand	high: other
Other Oceania	high
Diabetes	
Egypt	very high
India	very high
Other Asia	very high
Germany	very high
Greece	high: males
Italy	very high: females
Malta	very high
Poland	very high
Other Europe	very high
Other Oceania	very high
Diseases of the respiratory system	
UK & Ireland	high: females
Diseases of the digestive system	
Germany	high: females
Poland	high: males
Yugoslavia	high: males
Accidents, poisoning and violence	
South Africa	very high: suicide (males)
Canada	very high
USA	high: suicide
China	very high (females)
	high: motor vehicle accidents
Malaysia and Philippines (combined)	very high: motor vehicle accidents (females)
Germany	high
Poland	high, very high (males & females)
Yugoslavia	high, very high: suicide (males & females)
New Zealand	very high
Other Oceania	high: motor vehicle accidents

High indicates SMR 111 to 129. Very high indicates an SMR of 130 or more.
If males or females is stated, then this indicates that the SMR was high or very high for one sex but not for the other.
If no additional cause of death is stated, then this indicates that the SMR was high for the total group of causes.

Figure 5.1: *Standardised mortality ratios of birthplace groups in Australia at ages 15–74 years—males, 1987–89*

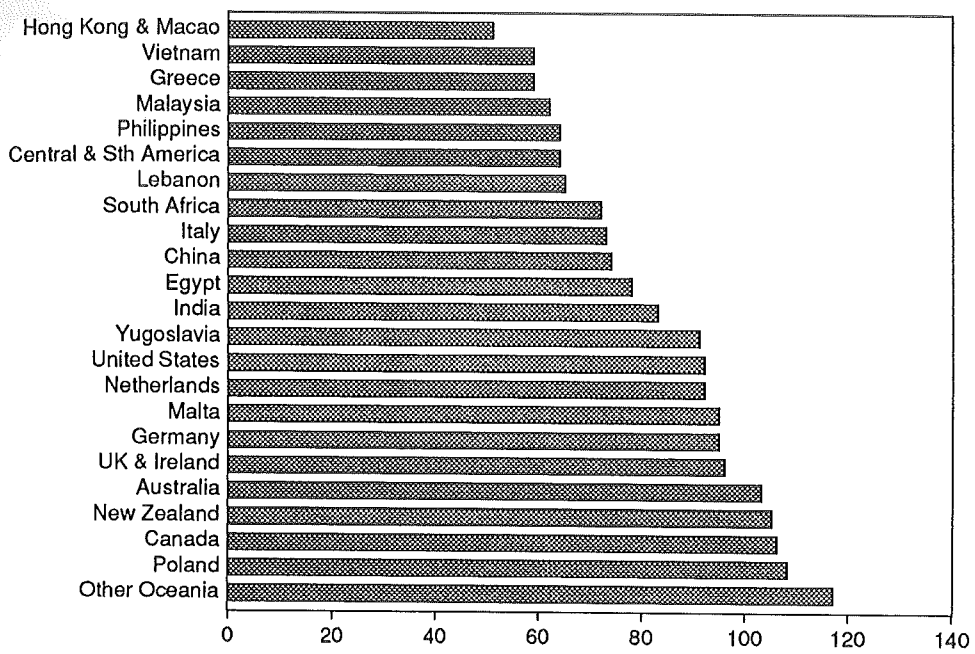


Figure 5.2: *Standardised mortality ratios of birthplace groups in Australia at ages 15–74 years—females, 1987–89*

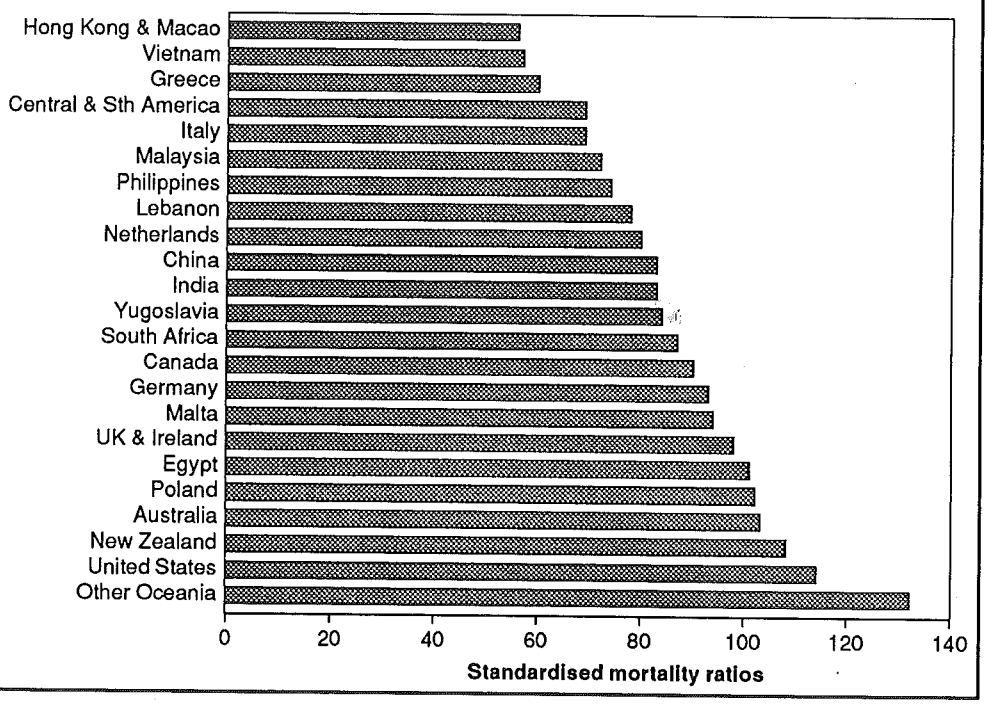


Figure 5.3: *Standardised mortality ratios (Diseases of the circulatory system) of birthplace groups in Australia at ages 15–74 years—males, 1987–89*

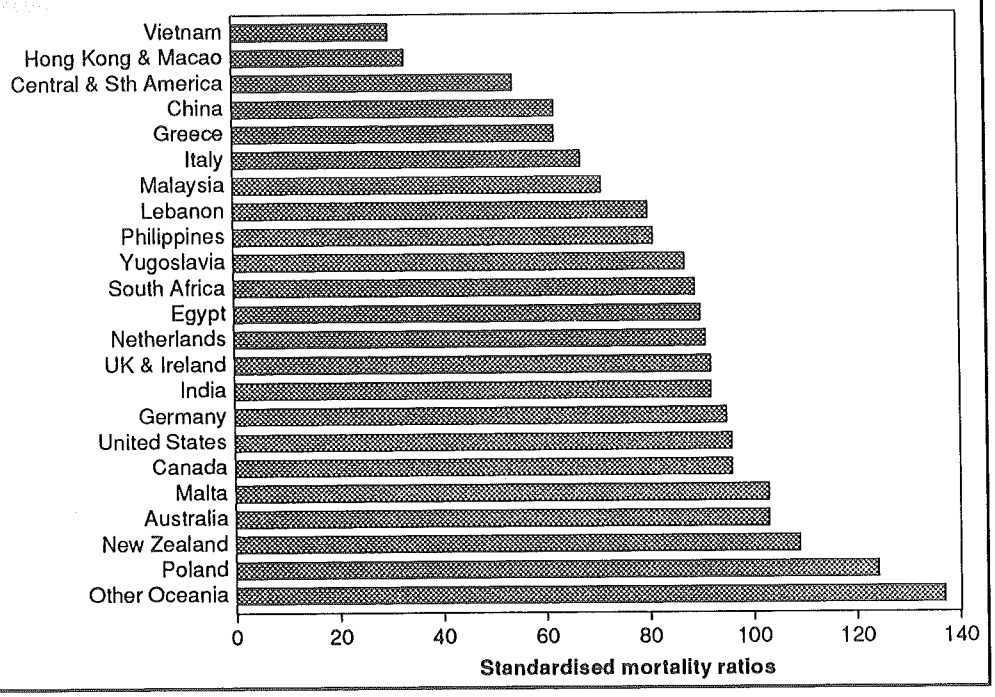
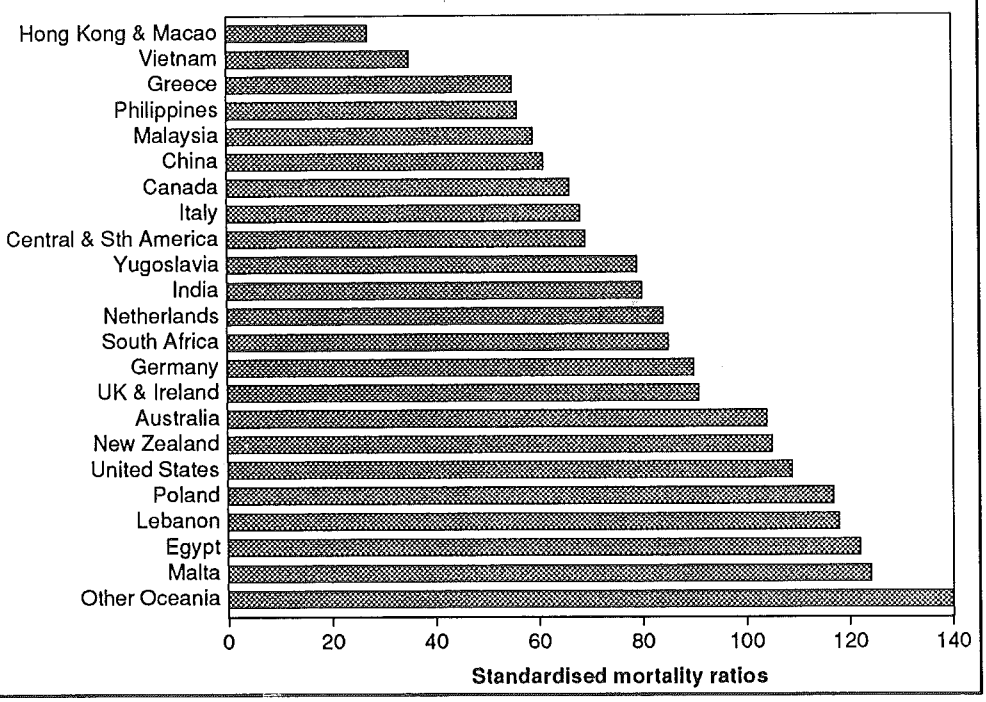


Figure 5.4: *Standardised mortality ratios (Diseases of the circulatory system) of birthplace groups in Australia at ages 15–74 years—females, 1987–89*



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6 Differences in causes of hospitalisation in New South Wales

Edouard T d'Espaignet and Christopher Stevenson

6.1 Coverage of hospital separations in Australia

Diagnoses attributed as the major cause of hospitalisation care are an important source of information on the more serious episodes of acute and chronic illnesses faced by individuals in a population.

In a comprehensive review of hospital morbidity collections around Australia, Harvey and Mathers (1988) have produced a matrix of the coverage of the data collected at separation from hospitals in the various regions of Australia.

	State/Territory							
Type of hospital	**NSW**	**Vic**	**Qld**	**WA**	**SA**	**Tas**	**ACT**	**NT**
Public	+	+	+	+	+	o	+	+
Private	+	o	+	+	+	o	o	–
Psychiatric	+	o	o	o	o	o	–	–
Repatriation	+	o	+	+	o	o	–	–
Rehabilitation	+	o	+	+	o	o	–	–
Nursing homes	+	o	o	o	o	o	o	o

+ : included in collection
o : excluded from collection
– : no institutions of this type

Source: Harvey R & Mathers C (1988) *Hospital Utilisation and Costs Study Volume 1: Commentary,* AGPS, Canberra

There is no single national collection of hospital admissions or discharges in Australia. Each State and Territory is responsible for its own data collection and the matrix shows the extent of the variation in what they collect. It is consequently not possible to amalgamate information in order to provide a national picture for all types of hospitalisation. The analysis presented here refers only to 1986 data from New South Wales, the only State with full coverage of the different types of institutions.

A disadvantage of this is that NSW may not be representative of the whole of Australia. One theoretical source of bias is that the characteristics of migrant groups may vary across the nation. For example, Italian migrants in NSW may differ by age, education etc. from Italian migrants elsewhere. This could mean that their potential for developing health problems may not be similar across the various States and Territories. Although there are no data to confirm or reject this hypothesis, it is unlikely that any one State would be attracting the least healthy of any migrant group, and it is therefore unlikely that this would be a significant problem.

A further possible source of bias in using only NSW is that procedures for admission to and separation from hospitals may differ between the different States and Terri-

tories. While this may lead to an under-count or over-count of the number of hospital admissions among States/Territories, it is again unlikely that there would be a differential in admission based on ethnicity alone.

These potential problems are unlikely to distort greatly the relative differences between the different ethnic groups. Further, since NSW holds such a large proportion of both the total Australian-born and overseas-born populations, differences among the various ethnic groups in NSW are likely to reflect the situation nationally.

6.2 Methods

6.2.1 Description of database

The 1986 New South Wales Hospital morbidity collection contains data from all hospitals. The quantity of data obtained from each hospital, however, differs depending on the size of the hospital and the degree to which its morbidity records were computerised in 1986. Hospitals with fully computerised information systems, and those where the annual number of separations was above 1,500 cases, reported their numbers in full to the NSW Department of Health. Information on all other hospitals was obtained on a rotational sampling basis. This data collection method controls for seasonal effects in hospitalisation.

6.2.2 Definition of ethnicity

The database contained information on country of birth. This item was used as a proxy for ethnicity. Neither main language spoken in the country of birth nor length of residence in Australia for overseas-born persons were available.

Countries of birth have been grouped as follows from the classification in the original data:

Oceania:
Australia
Other Oceania

Americas:
Canada & United States
Other Americas

Europe:
Greece
Ireland & United Kingdom
Italy
Yugoslavia
Other Europe

Africa:
Egypt
Other Africa

Asia:
Kampuchea, Laos & Vietnam
Other Asia

Middle East

6.2.3 Causes of hospital separations

The causes of hospital stays were coded using the Ninth Revision of WHO's International Classification of Diseases. The analysis is based on a study of differences in hospitalisation for the following groups of diagnoses:

All causes (ICD-9 Chapters I to XVII)

Diseases of the circulatory system (ICD-9 Chapter VII)

- All diseases of the circulatory system
- Ischemic heart disease (ICD-9 codes 410–414)
- Cerebrovascular diseases (ICD-9 codes 430–438)
- Hypertensive diseases (ICD-9 codes 401–405)
- Other

Neoplasms (cancers) (ICD-9 Chapter II)

- All neoplasms
- Neoplasm of trachea, bronchus, lung (ICD-9 code 162)
- All other neoplasms
- also
- Neoplasm of breast (women only) (ICD-9 code 174)
- Neoplasm of prostate (men only) (ICD-9 code 185)

Diseases of the respiratory system (ICD-9 Chapter VIII

Diseases of the genitourinary system (ICD-9 Chapter X)

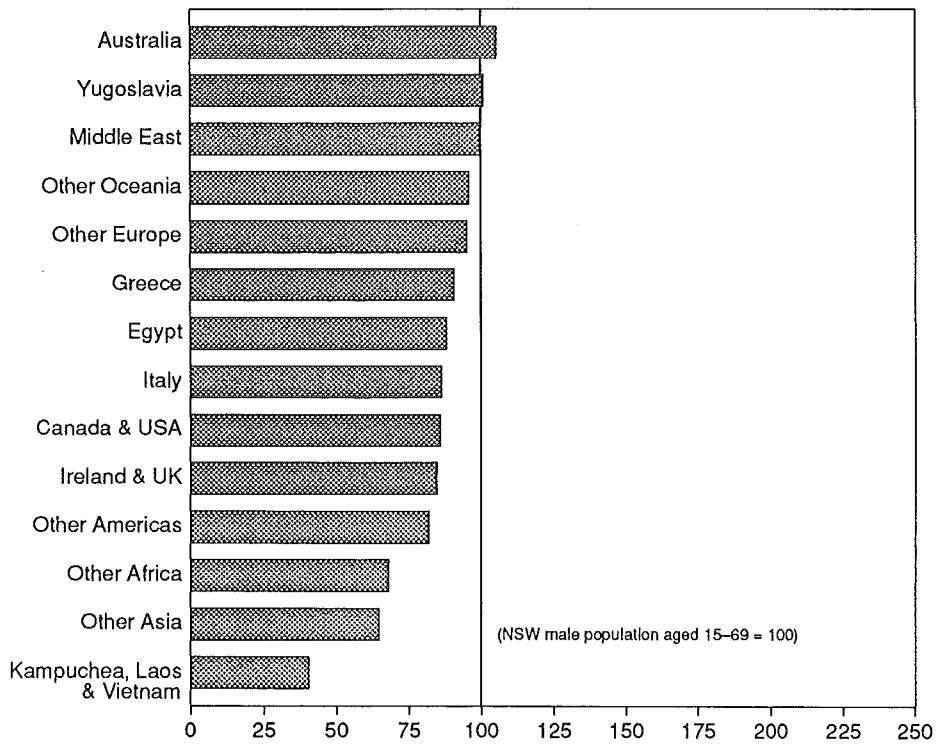
Injury and poisoning (ICD-9 Chapter XVII)

All other causes

6.2.4 Methods of analysis

The analysis was restricted to women and men aged between 15 and 69 years of age. When comparing the levels of hospital separations among the different groups, adjustments must be made for the different age composition of these populations. The relatively small numbers involved require that these adjustments be made through the indirect standardisation procedure. Indirectly standardised hospital separation ratios with their 95 per cent confidence intervals were calculated for each diagnosis for each of the different ethnic groups. The rates for the total male and female populations of NSW were used as standards. The results are presented in the form of bar charts for each selected cause of hospitalisation. These show the data in decreasing order of magnitude. The ratios together with their 95 per cent confidence intervals are provided in tabular form at the end of the chapter. These are arranged to show the magnitude of the standardised hospitalisation ratios by region (and countries within regions) in alphabetical order. Countries with ratios shown as '—' indicate that no persons were admitted to hospital for these particular causes in NSW in 1986.

Figure 6.1: *Age-adjusted hospital separation ratios for all causes of hospitalisation for men aged 15 to 69 years by country/region of birth, NSW, 1986*

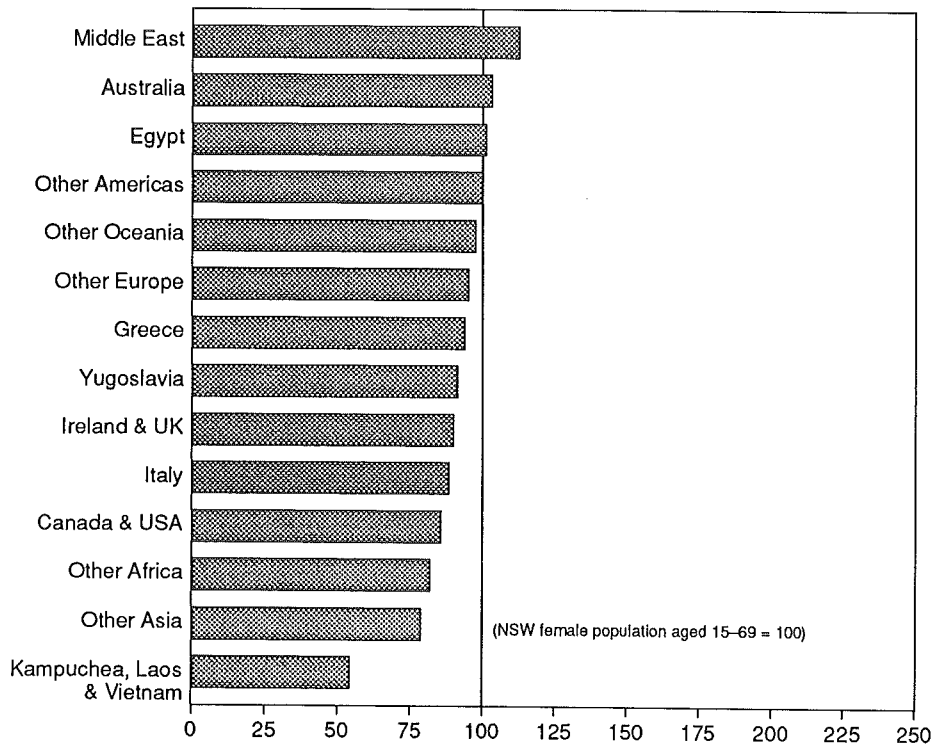


After adjusting for differences in age composition, men born in Australia had the highest level of hospitalisation compared with any other group.

Among those born overseas, most of the next highest levels were among born in non-English-speaking countries, with those born in Other Oceania being the only exception.

Men born in Asia had the lowest level of hospitalisation.

Figure 6.2: *Age-adjusted hospital separation ratios for all causes of hospitalisation for women aged 15 to 69 years by country/region of birth, NSW, 1986*

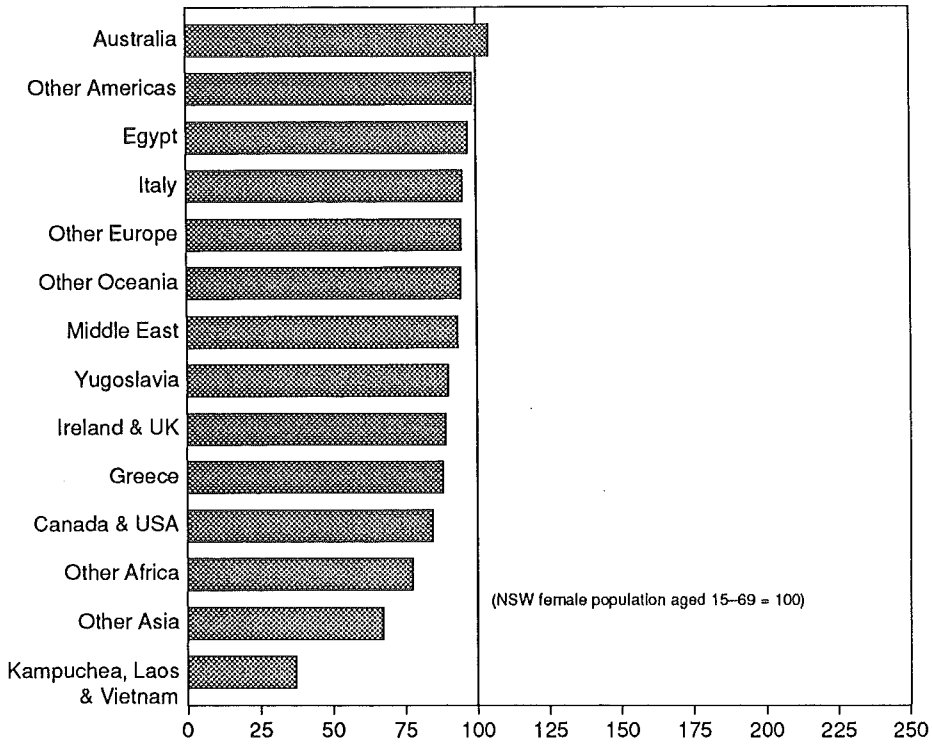


Women born overseas were less likely to be hospitalised than those born in Australia. The only exception was women born in the Middle East who had an age adjusted hospitalisation ratio of 113 compared with the baseline of 100 for the total NSW female population.

Women born in Egypt and 'Other Americas' (Central and Latin America) had ratios that were not statistically different from that of the total NSW female population.

Women born in Asia, especially those born in Kampuchea, Laos & Vietnam had the lowest levels of hospitalisation.

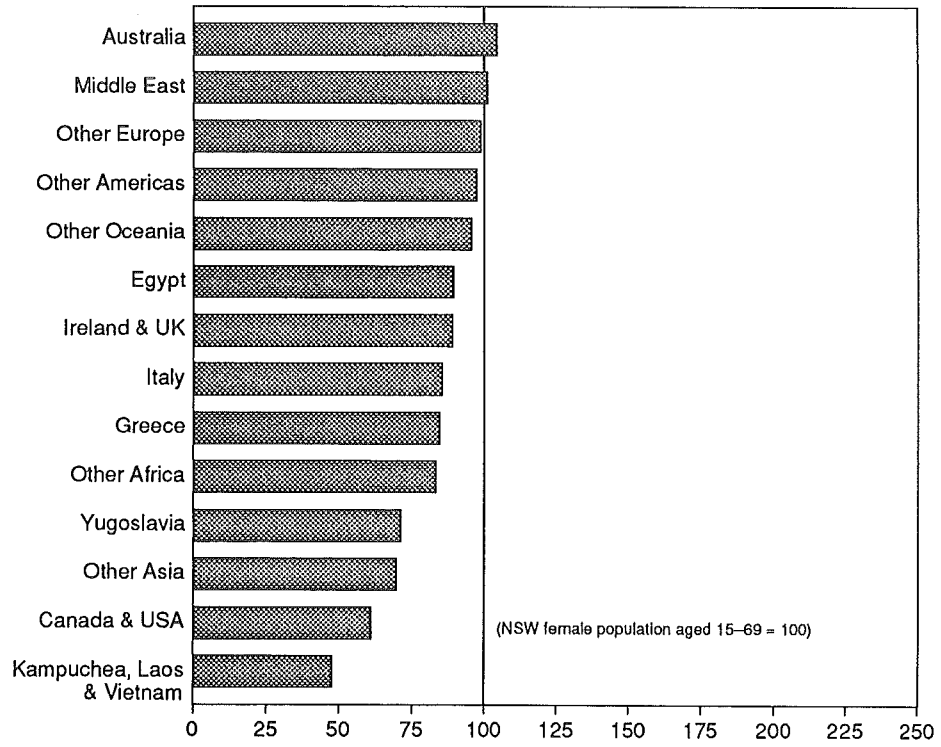
Figure 6.3: *Age-adjusted hospital separation ratios for all causes of hospitalisation except for those related to pregnancy for women aged 15 to 69 years by country/region of birth, NSW, 1986*



The previous analysis included all hospitalisations. The analysis presented here excludes pregnancy related hospitalisations as the large majority of these are morbidity free.

Women born in Australia recorded the highest level of hospitalisation. The level for women born in the Middle East, who occupied the first position in the previous analysis, has moved from about 10 per cent above to about 10 per cent below that of the total NSW female population.

Figure 6.4: *Age-adjusted hospital separation ratios for all diseases of the circulatory system for women aged 15 to 69 years by country/region of birth, NSW, 1986*



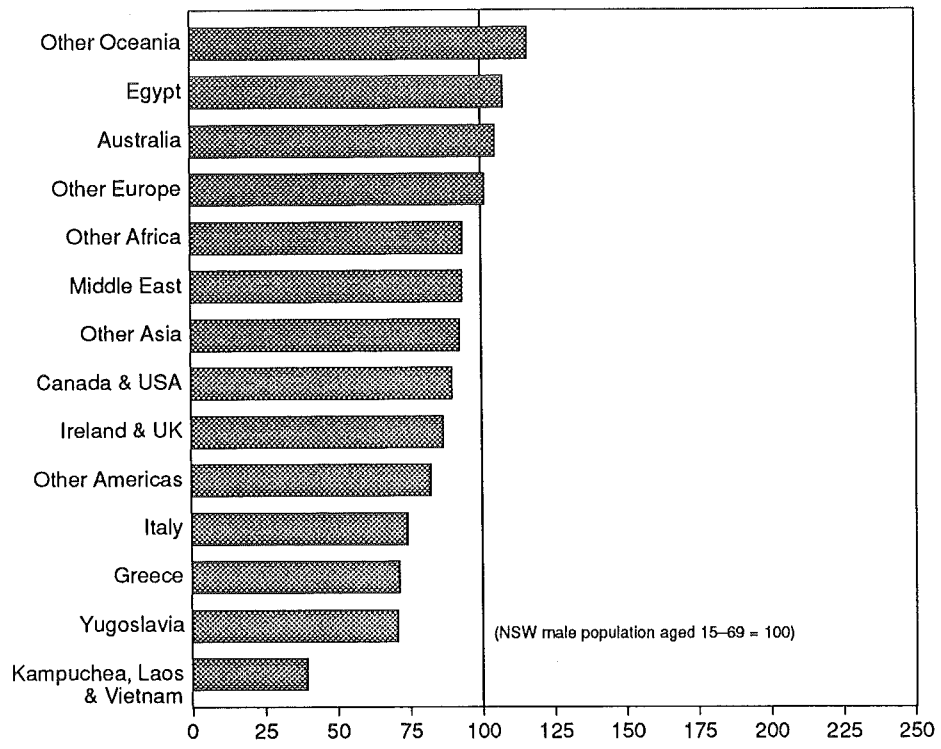
Diseases of the circulatory system include ischemic heart, cerebrovascular, and hypertensive diseases. Diseases of the circulatory system are the major killers of Australians. In 1986, the mortality burden from these diseases accounted for just under half of all deaths in Australia (d'Espaignet et al. 1991). In the same year, these diseases were responsible for over 5 per cent of all admissions to hospital for women aged 15 to 69 years.

Women born in Australia had the highest level of hospitalisation for all diseases of the circulatory system compared with the total female population of NSW. That level was however not statistically different from the level for women born in the Middle East, Other Europe, Other Americas, Oceania, and Egypt.

A second group of women born in Ireland & UK, Italy, Greece and Other Africa had ratios about 80 to 90 per cent of the level experienced by the total female NSW population.

Women born in the remaining countries/regions had levels of hospitalisation about half to two-thirds that of the female population of NSW.

Figure 6.5: *Age-adjusted hospital separation ratios for all diseases of the circulatory system for men aged 15 to 69 years by country/region of birth, NSW, 1986*

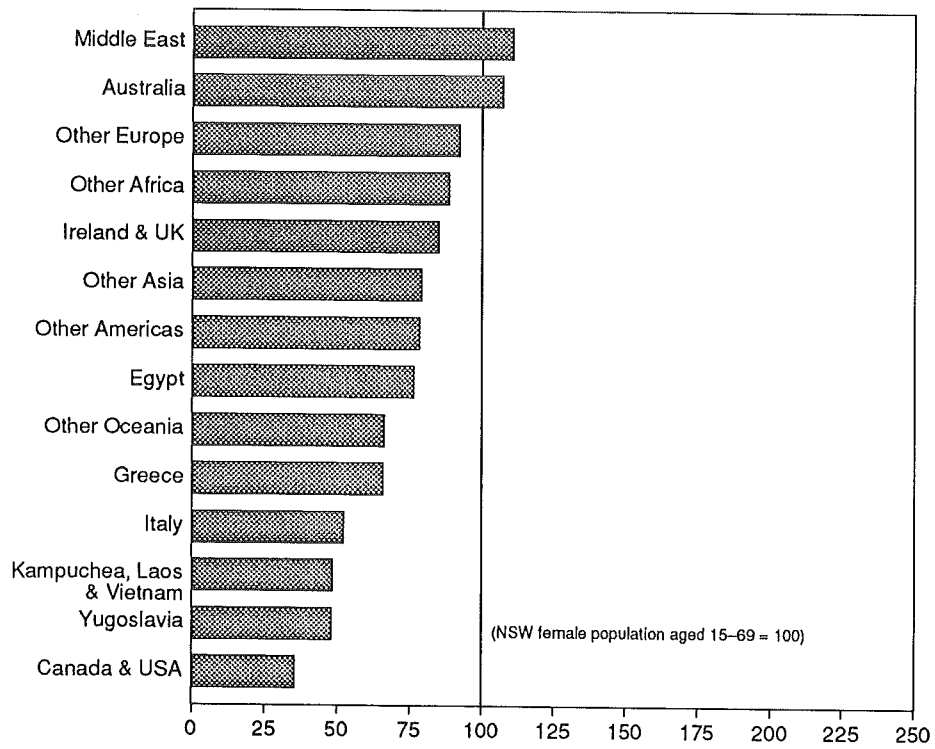


Men born in Other Oceania had significantly more hospitalisation for all diseases of the circulatory system than men born elsewhere. Their level was over 16 per cent higher than that of the total male population of NSW.

Men born in Africa, Canada & USA, Other Europe and the Middle East had levels that were not statistically different from that of the total male NSW population.

Contrary to the usually low levels attained for most other causes, men born in 'Other Asia' recorded relatively high levels of hospitalisation for diseases of the circulatory system. Men born in Kampuchea, Laos & Vietnam had the lowest level of hospitalisation.

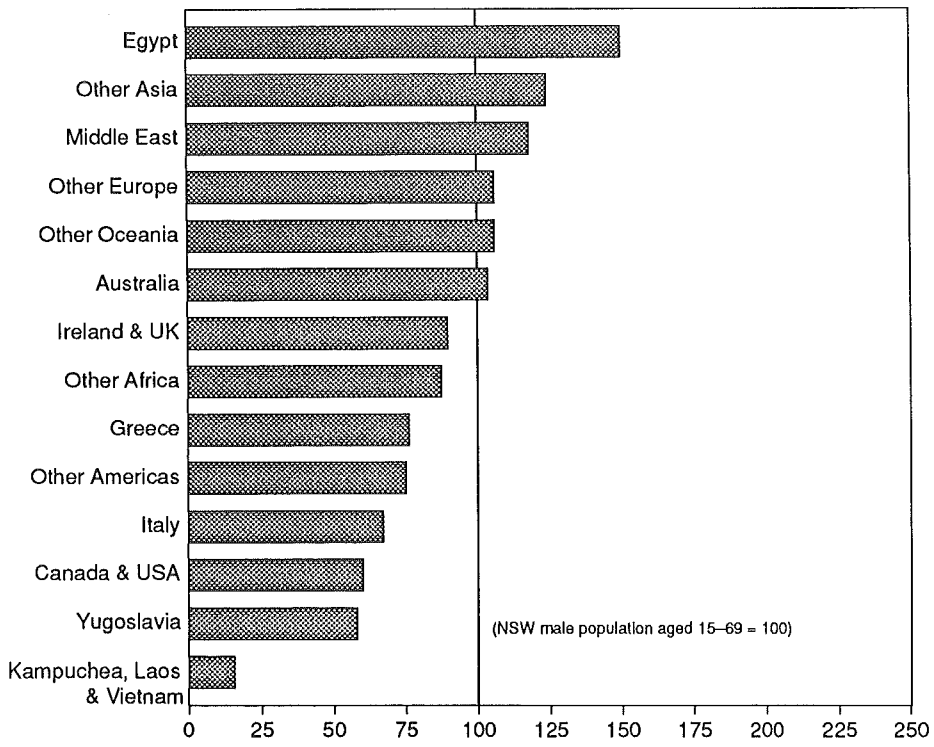
Figure 6.6: *Age-adjusted hospital separation ratios for ischemic heart disease for women aged 15 to 69 years by country/region of birth, NSW, 1986*



Women born in the Middle East and Australia had the highest level of hospitalisation for ischemic heart disease.

There is no obviously discernible pattern among those hospitalised for ischemic heart disease. One might have expected that women born in the more developed regions of the world would suffer from the highest levels of hospitalisation. The highest and lowest levels were actually to women born in the Middle East and in Canada & USA respectively.

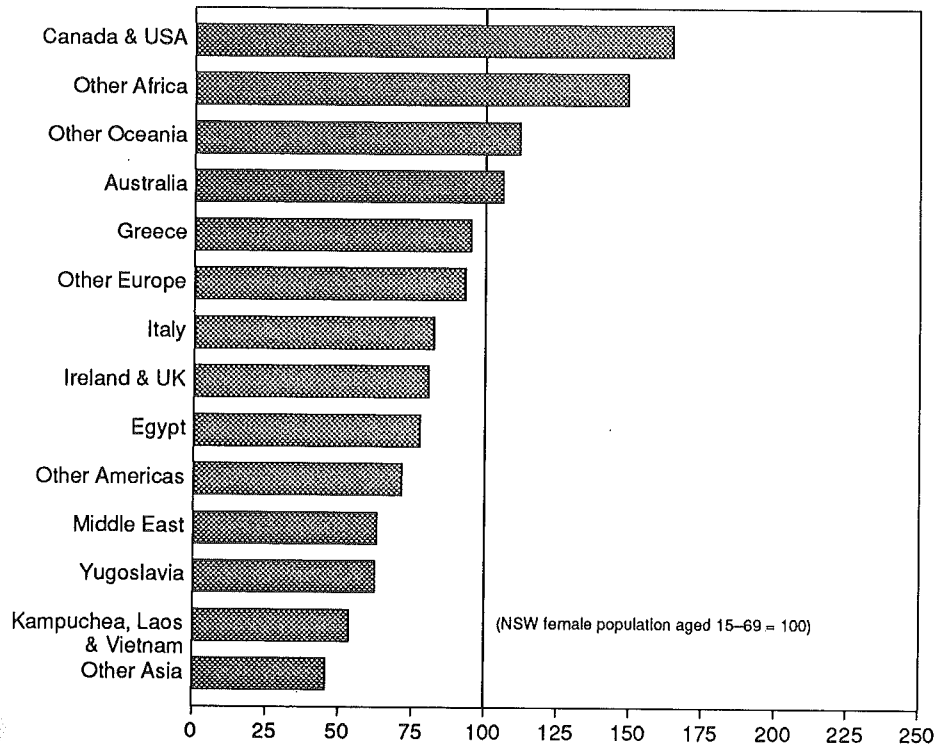
Figure 6.7: *Age-adjusted hospital separation ratios for ischemic heart disease for men aged 15 to 69 years by country/region of birth, NSW, 1986*



Men born in Egypt, Other Asia and the Middle East had the highest levels of hospitalisation for ischemic heart disease. Their levels exceeded that of the total NSW male population by 45 per cent for those born in Egypt, and by about 20 per cent for those born in the other two regions.

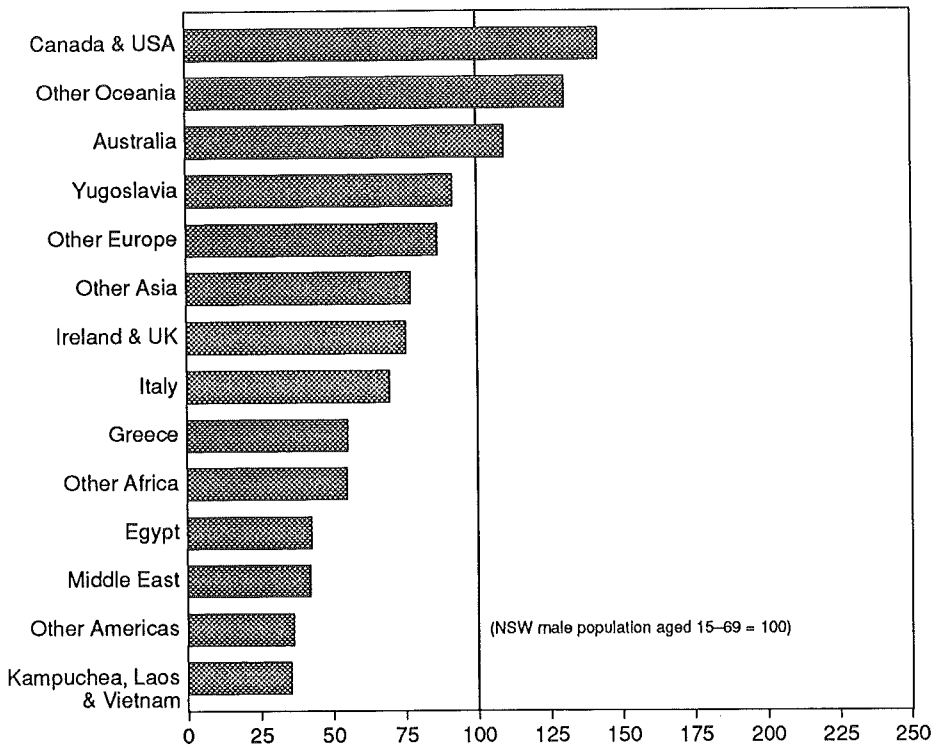
Men born in Kampuchea, Laos & Vietnam had a significantly lower level of hospitalisation for ischemic heart disease than any other group.

Figure 6.8: *Age-adjusted hospital separation ratios for cerebrovascular diseases for women aged 15 to 69 years by country/region of birth, NSW, 1986*



In contrast to their low level for ischemic heart disease, women born in Canada & USA had the highest level of hospitalisation for cerebrovascular diseases. Women born in 'Other Africa' also experienced a relatively high level of hospitalisation for these diseases. However the width of the confidence intervals for most of those groups show that these are not statistically different from that of the total NSW female population aged between 15 and 69 years.

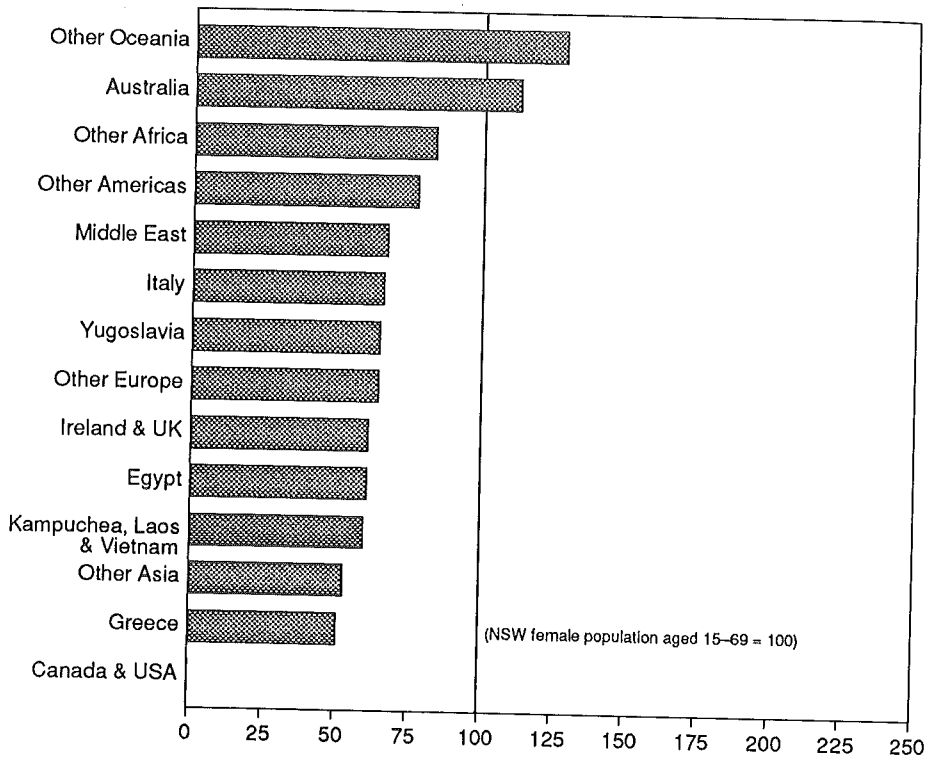
Figure 6.9: *Age-adjusted hospital separation ratios for cerebrovascular diseases for men aged 15 to 69 years by country/region of birth, NSW, 1986*



Men born in Canada & USA and Oceania (including Australia) had the highest level of hospitalisation for cerebrovascular diseases.

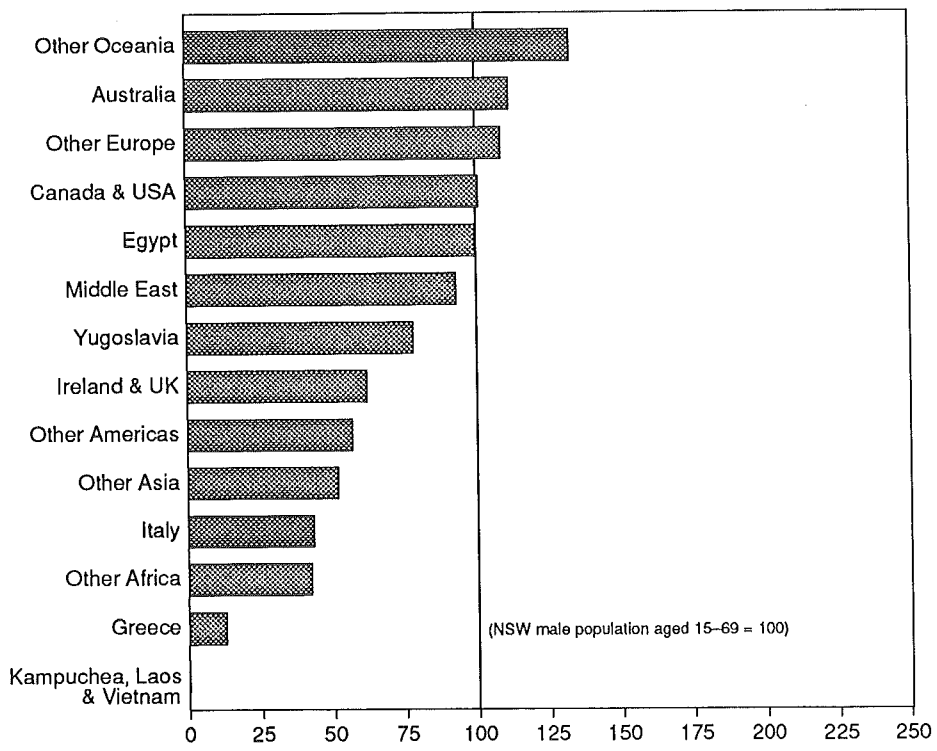
Men born in Yugoslavia and Other Europe experienced 10 to 15 per cent less hospitalisation than that of the total NSW male population aged 15 to 69 years although the difference in levels was not statistically different for those born in Yugoslavia. A similar but even more extreme situation was also observed for men born in 'Other Africa'. Their level of hospitalisation was about 50 per cent that of the total NSW male population but again the levels were not statistically different from each other.

Figure 6.10: *Age-adjusted hospital separation ratios for hypertensive diseases for women aged 15 to 69 years by country/region of birth, NSW, 1986*



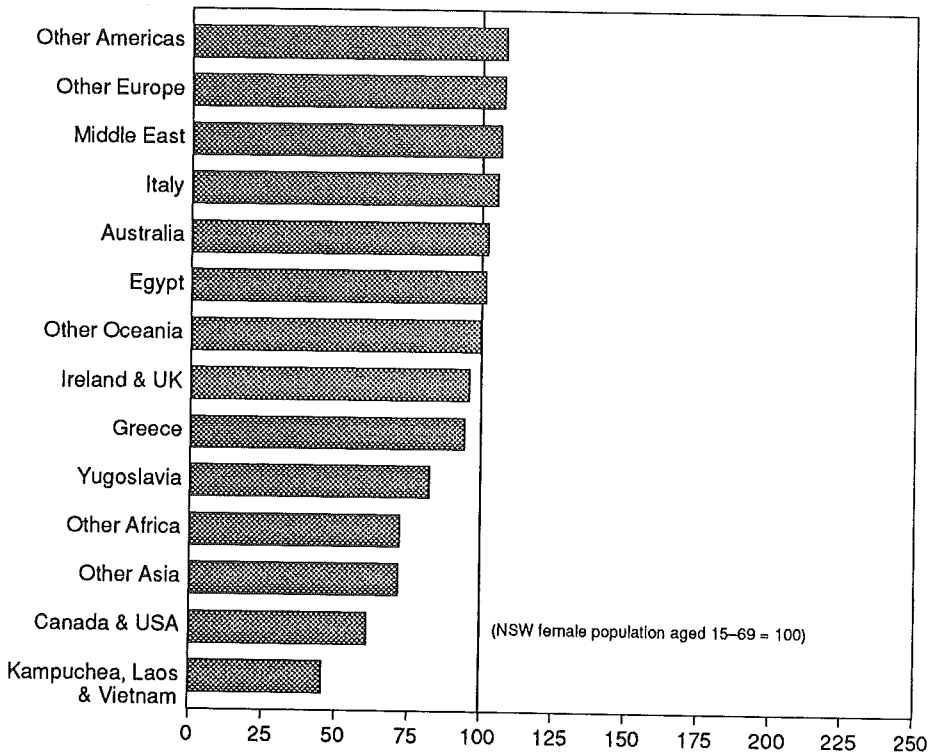
Women born in Oceania had the highest level of hospitalisation for hypertensive diseases. This was often about twice the level for other women born overseas. Levels ranged from 83 for women born in Other Africa to 50 for those born in Greece, with most levels around 60. However, as for some of the analyses presented earlier, many of these differences did not reach statistical significance.

Figure 6.11: *Age-adjusted hospital separation ratios for hypertensive diseases for men aged 15 to 69 years by country/region of birth, NSW, 1986*



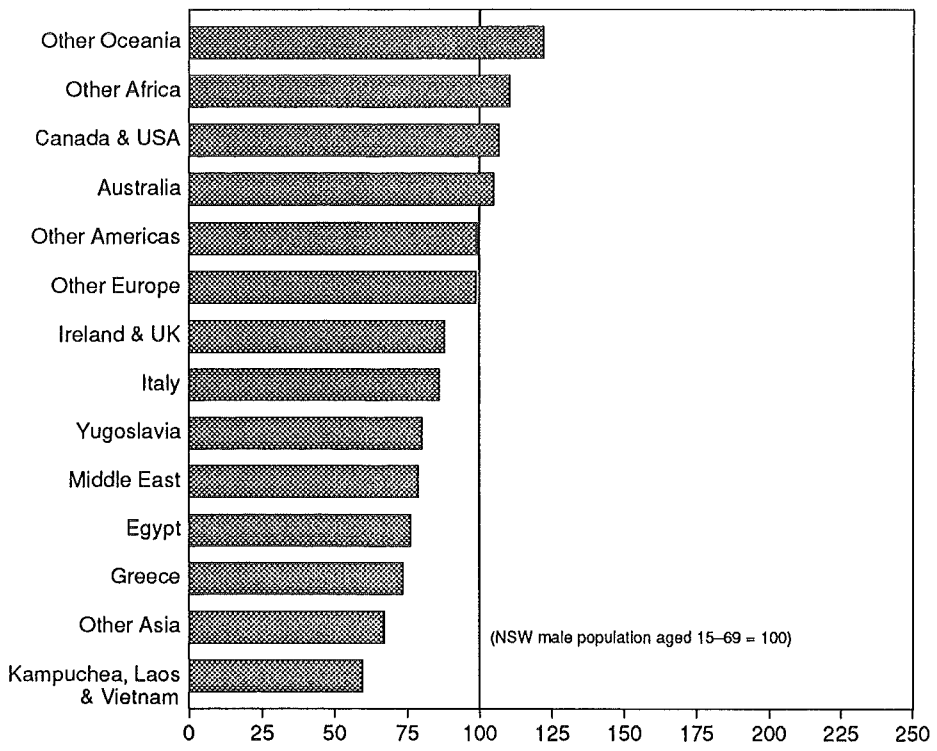
Men born in Australia had a significantly higher level of hospitalisation for hypertension compared with the total male population of NSW aged 15 to 69 years. This suggests that those born overseas collectively had lower levels of hospitalisation.

Figure 6.12: *Age-adjusted hospital separation ratios for other diseases of the circulatory system for women aged 15 to 69 years by country/region of birth, NSW, 1986*



There was little difference between most of those born overseas and those born in Australia for all other diseases of the circulatory system. Only those born in Yugoslavia, Other Africa, Asia, Canada & USA and Kampuchea, Laos & Vietnam had levels of hospitalisation significantly lower than those experienced by the NSW female population.

Figure 6.13: *Age-adjusted hospital separation ratios for other diseases of the circulatory system for men aged 15 to 69 years by country/region of birth, NSW, 1986*

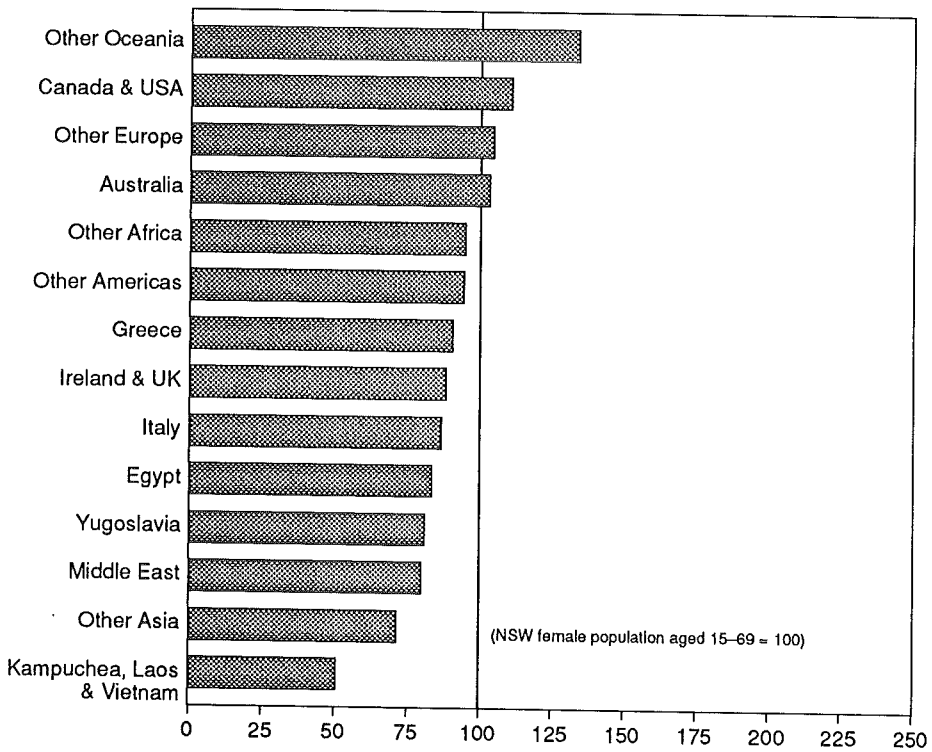


Men born in Other Oceania had a 21 per cent significantly higher level of hospitalisation compared with the NSW male population.

Men born in Other Africa, in the Americas, and in Other Europe had levels that were not statistically different from that of the NSW male population.

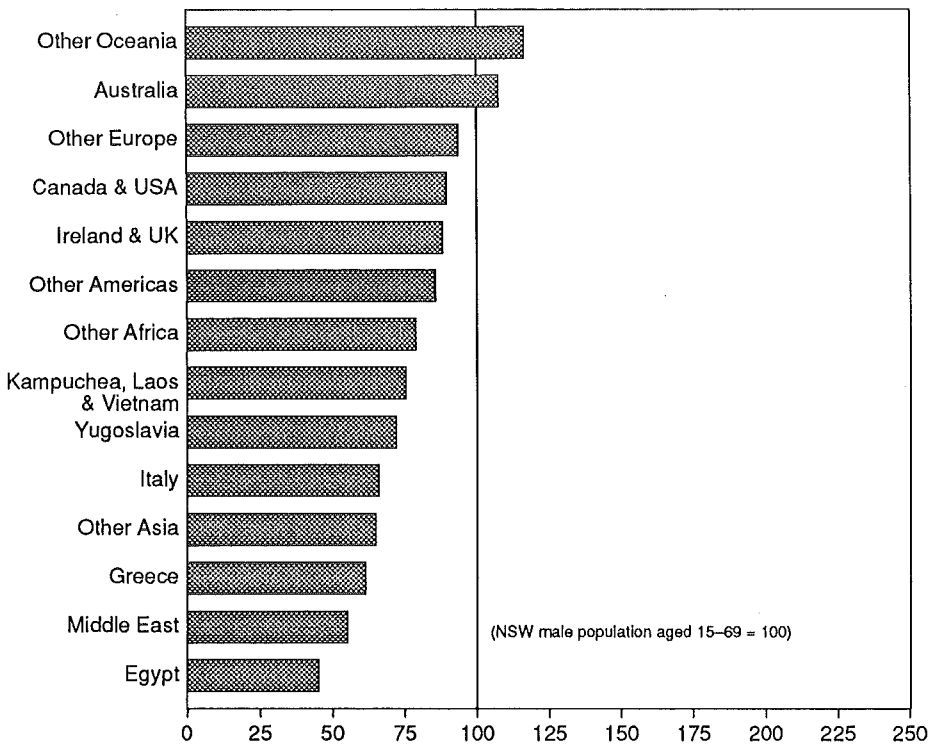
Men born in Asia had the lowest levels of hospitalisation for all other diseases of the circulatory system.

Figure 6.14: *Age-adjusted hospital separation ratios for all neoplasms for women aged 15 to 69 years by country/region of birth, NSW, 1986*



Women born in the more developed regions of the world tended to have higher levels of hospitalisation for cancers than those born in the lesser developed regions. Those born in Other Oceania and Canada & USA had the highest levels while those born in Asia had the lowest level.

Figure 6.15: *Age-adjusted hospital separation ratios for all neoplasms for men aged 15 to 69 years by country/region of birth, NSW, 1986*

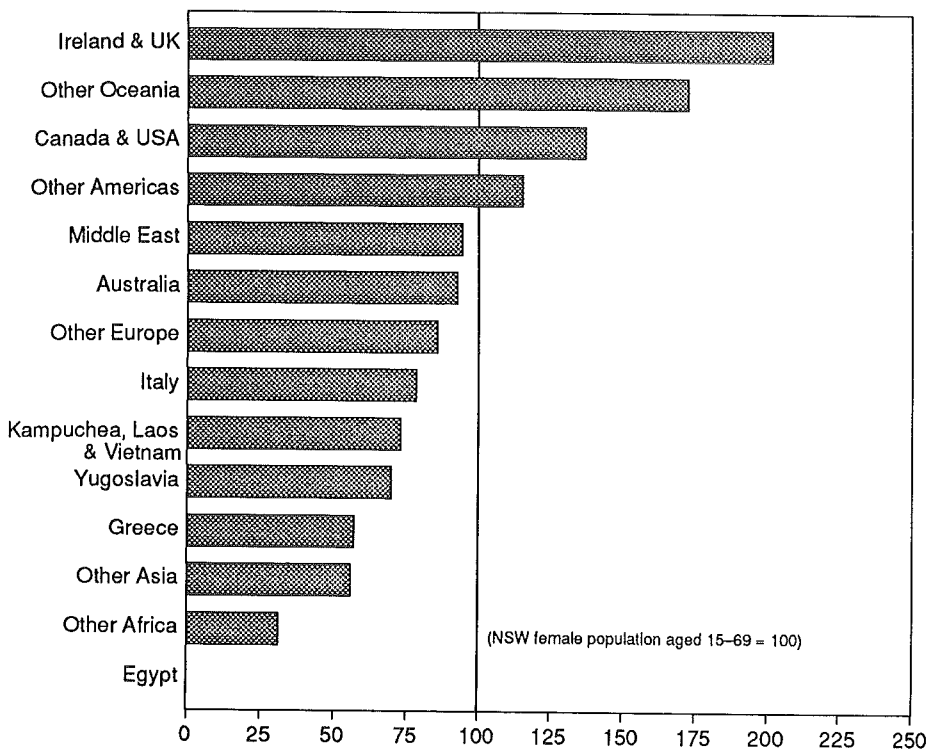


Men born in Oceania (including Australia) had the highest level of hospitalisation for all cancers. Although men born in Canada & USA experienced almost 10 per cent less hospitalisation than the total NSW male population, there was no statistical difference between them.

Compared with their position for other causes of hospitalisation, men born in Kampuchea, Laos and Vietnam had relatively high levels of hospitalisation for cancers. They, however, still had almost 30 per cent less hospitalisation than men born in Australia.

Men born in the Middle East and Egypt had the lowest level of hospitalisation for cancers.

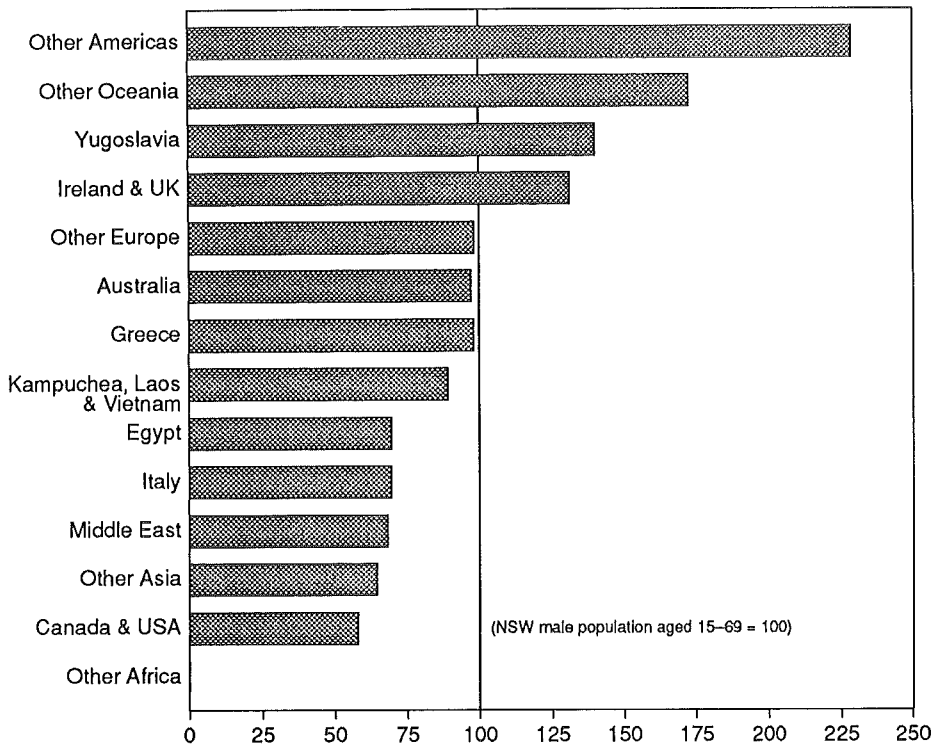
Figure 6.16: *Age-adjusted hospital separation ratios for neoplasms of the trachea, bronchus and lung for women aged 15 to 69 years by country/region of birth, NSW, 1986*



Women born in Ireland & UK, Other Oceania, and in the Americas had the highest levels of hospitalisation for neoplasm of trachea, bronchus, and lung.

The levels of hospitalisation for most immigrants differed substantially from that of the NSW female population, but there were no statistically significant differences between them. For example, women born in Canada & USA had almost 40 per cent more and women born in Other Africa had almost 70 per cent less hospitalisation than the total NSW female population. The confidence limits, however, show that these levels are not statistically different from that of Australian-born women.

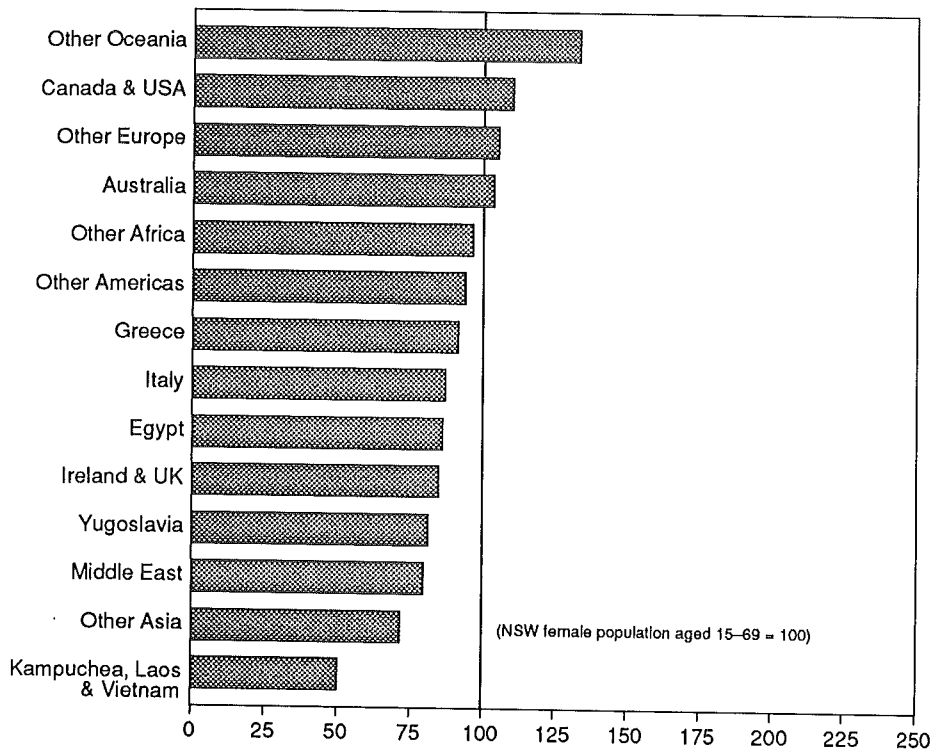
Figure 6.17: *Age-adjusted hospital separation ratios for neoplasms of the trachea, bronchus and lung for men aged 15 to 69 years by country/region of birth, NSW, 1986*



Men born in Other Americas, Other Oceania and in Ireland & UK had significantly higher levels of hospitalisation for cancers of the trachea, bronchus and lung compared with the total NSW male population. Those born in the Other Americas had over twice the level of hospitalisation as Australian-born men.

Men born in Italy and Other Asia had significantly less hospitalisation.

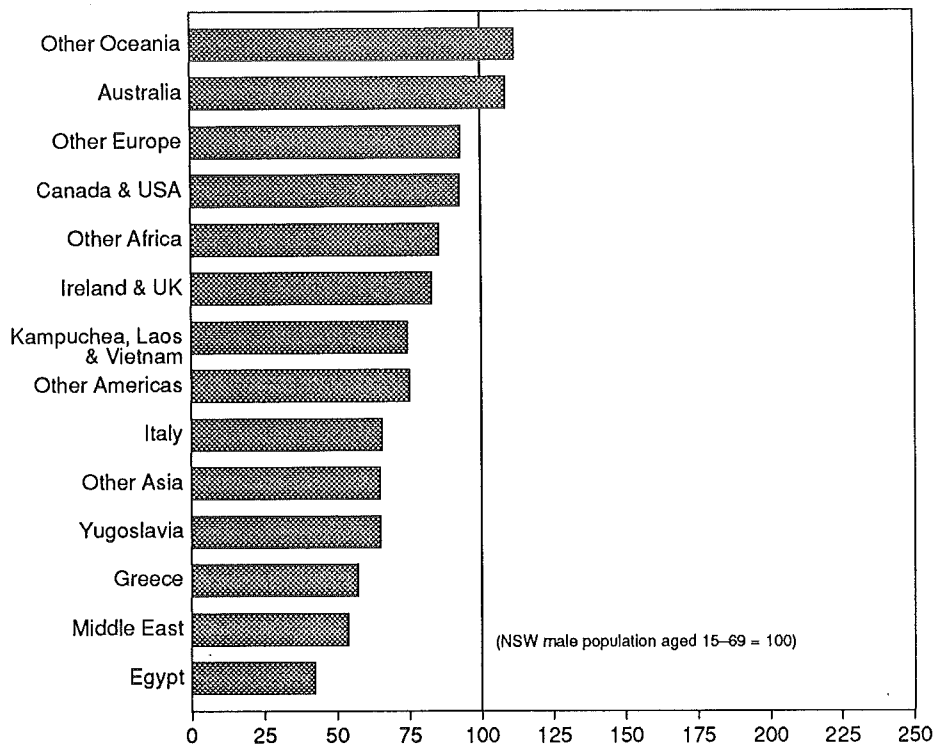
Figure 6.18: *Age-adjusted hospital separation ratios for all other neoplasms for women aged 15 to 69 years by country/region of birth, NSW, 1986*



Women born in Other Oceania had almost 30 per cent more hospitalisations for all other neoplasms than the total NSW female population.

There was little difference between those born in Australia, Other Europe, Other Africa and the Americas and the NSW female population.

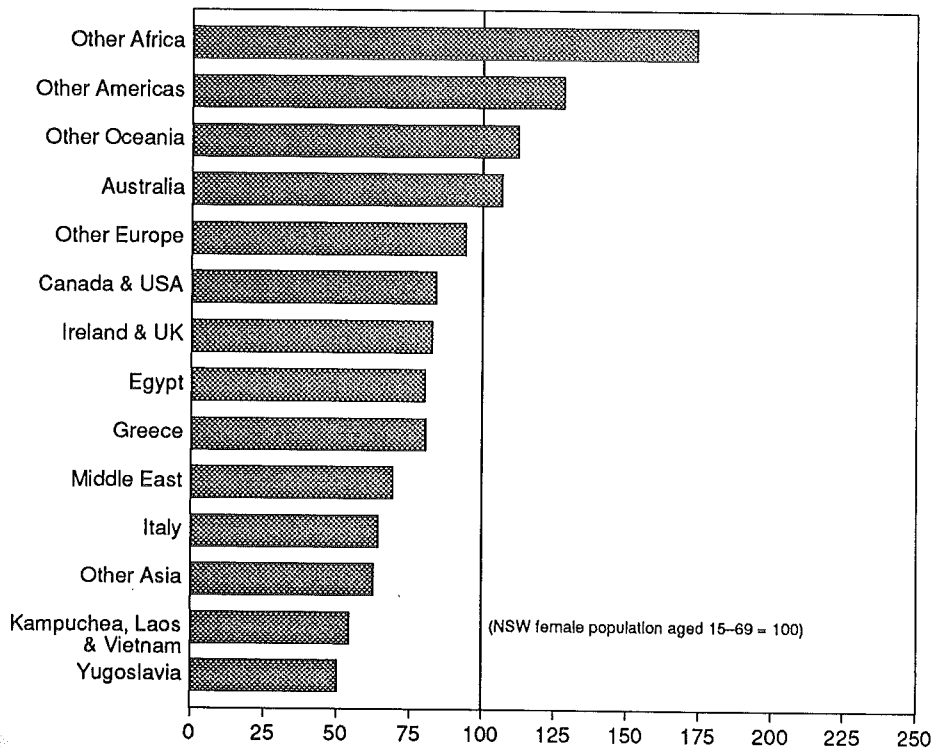
Figure 6.19: *Age-adjusted hospital separation ratios for all other neoplasms for men aged 15 to 69 years by country/region of birth, NSW, 1986*



Men born in Oceania, and Canada & USA had levels of hospitalisation statistically consistent with the level for the NSW male population. This was despite the Oceania group registering levels above that of the total NSW male population while the level for Canada & USA was less than that of the total NSW population.

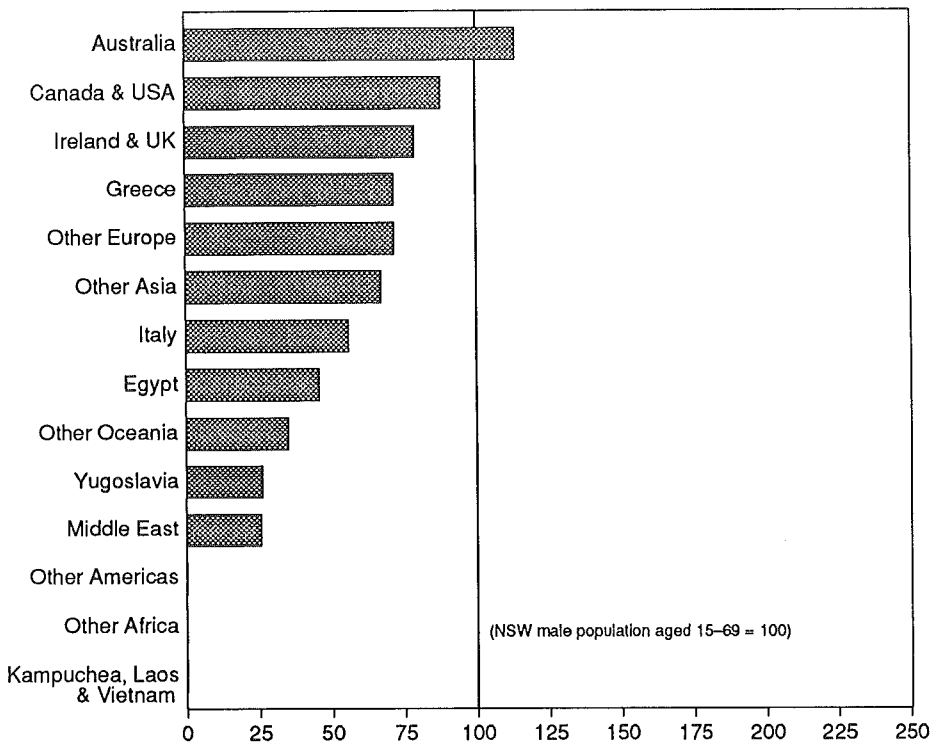
Men born elsewhere than in the places mentioned above all had significantly lower levels of hospitalisation for all other neoplasms compared with the NSW total male population. Men born in the Middle East and Egypt had the lowest level of all.

Figure 6.20: *Age-adjusted hospital separation ratios for neoplasm of the breast for women aged 15 to 69 years by country/region of birth, NSW, 1986*



Breast cancer is an important cause of morbidity among women. Women born in Africa (excluding Egypt) had by far the highest level of hospitalisation for breast cancer, exceeding that of the NSW female population by about 75 per cent.

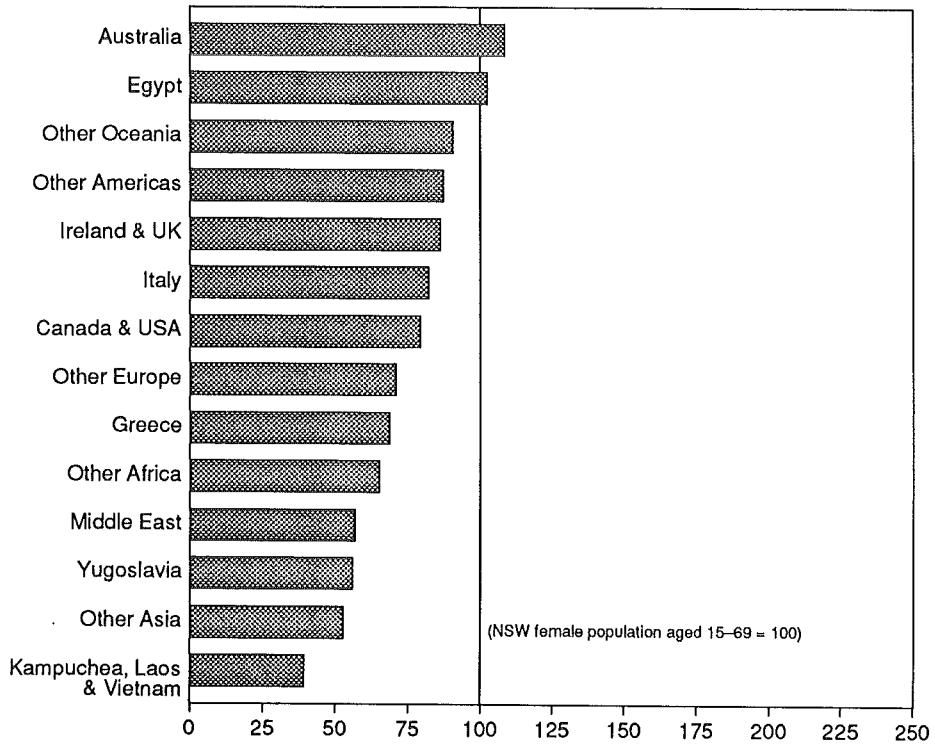
Figure 6.21: *Age-adjusted hospital separation ratios for neoplasm of the prostate for men aged 15 to 69 years by country/region of birth, NSW, 1986*



Men born in Australia had the highest point estimate of hospitalisation for cancer of the prostate compared with men born elsewhere. Although the point estimates sometimes appeared to be very different, there was no statistical difference between the level for those born in Other Oceania, Canada & USA, Greece, Other Asia and Egypt and the NSW male population level.

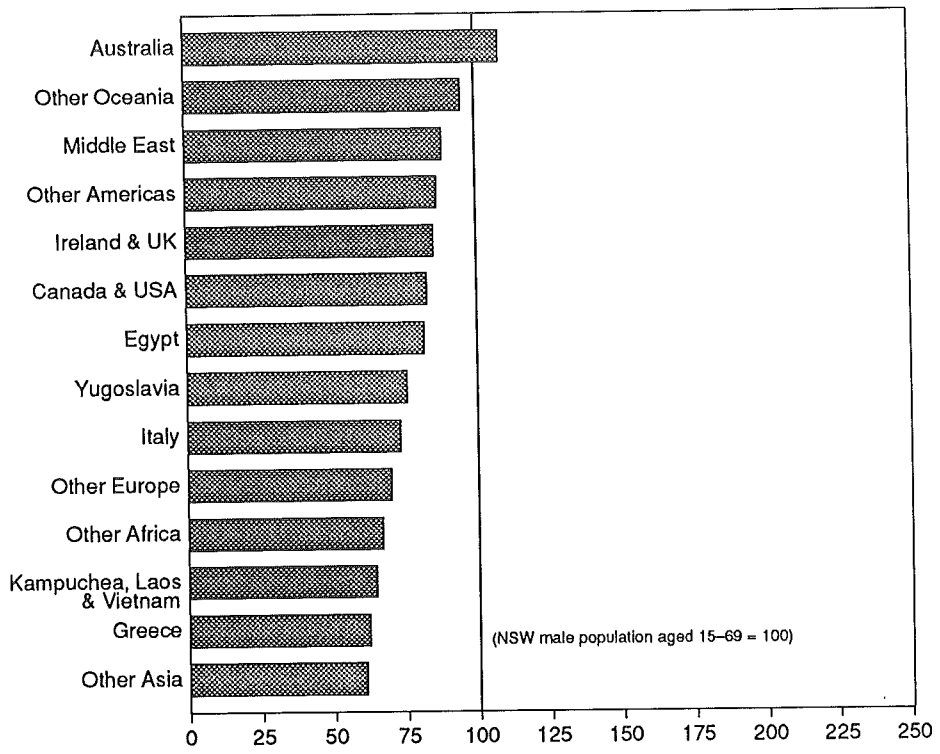
Among those born overseas, those born in the more industrialised parts of the world appeared to have higher levels of hospitalisation for this condition.

Figure 6.22: *Age-adjusted hospital separation ratios for all diseases of the respiratory system for women aged 15 to 69 years by country/region of birth, NSW, 1986*



Women born in Australia and Egypt had the highest level of hospitalisation for diseases of the respiratory system. Those born in Asia had the lowest level of hospitalisation.

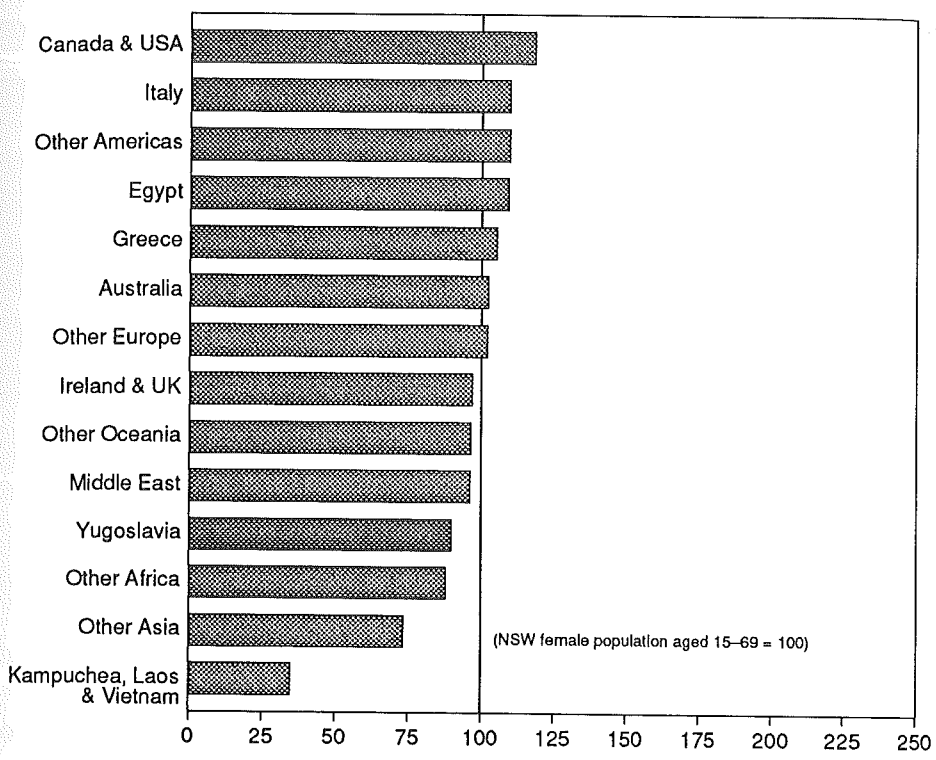
Figure 6.23: *Age-adjusted hospital separation ratios for all diseases of the respiratory system for men aged 15 to 69 years by country/region of birth, NSW, 1986*



Men born in Oceania (including Australia) had a significantly higher level of hospitalisation for diseases of the respiratory system compared with men born elsewhere.

The lowest levels were for men born in Asia and in Greece.

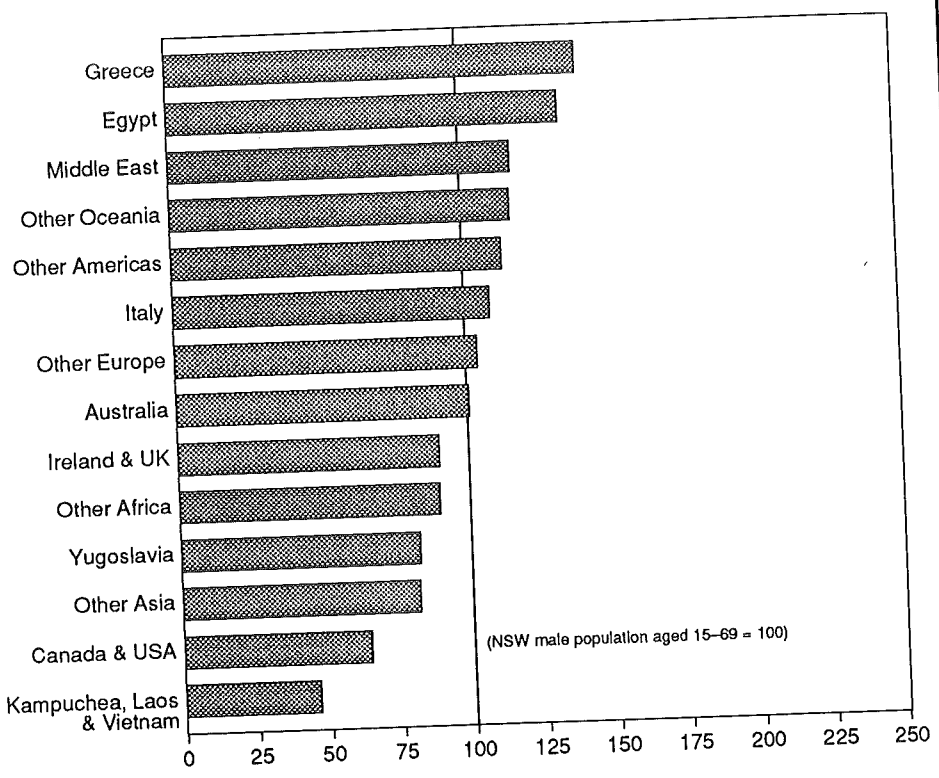
Figure 6.24: *Age-adjusted hospital separation ratios for all diseases of the genitourinary system for women aged 15 to 69 years by country/region of birth, NSW, 1986*



There was relatively little difference in the level of hospitalisation for these diseases for most groups compared with the level for the total NSW female population.

Women born in Asia had the lowest level of hospitalisation, although there was a big difference within that group itself. Women born in Kampuchea, Laos & Vietnam had one-third the level experienced by those born in Australia.

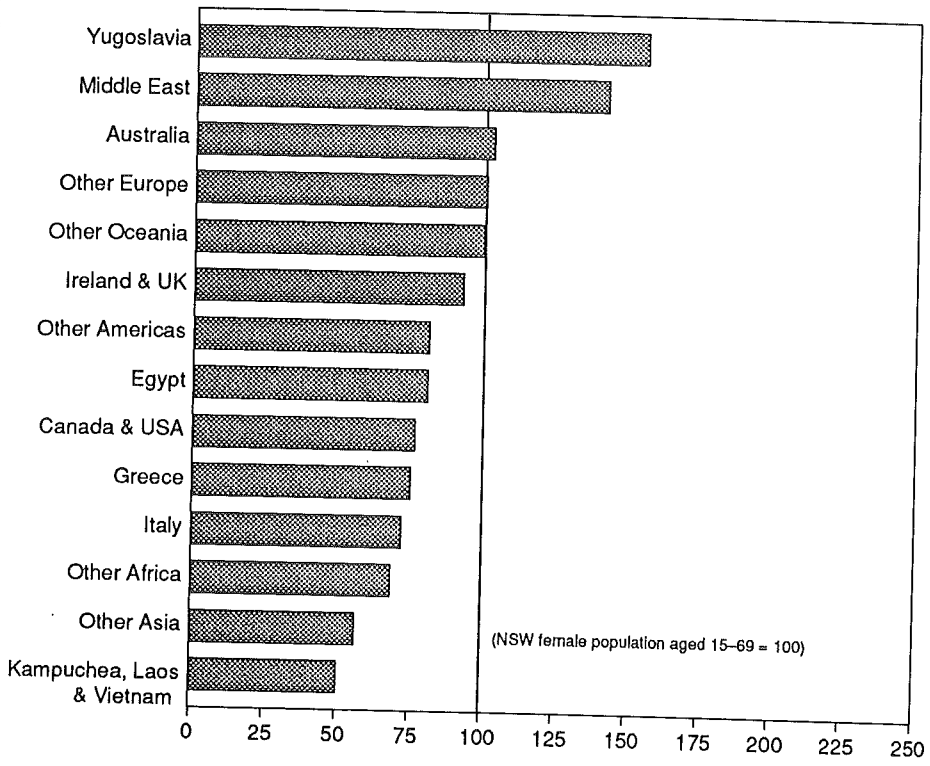
Figure 6.25: *Age-adjusted hospital separation ratios for all diseases of the genitourinary system for men aged 15 to 69 years by country/region of birth, NSW, 1986*



Men born in Greece, Egypt, the Middle East and Other Oceania had significantly higher levels of hospitalisation for diseases of the genitourinary system compared with the level for the total NSW male population.

In contrast, those born in Ireland & UK, Yugoslavia, Asia, and Canada & USA had significantly lower levels of hospitalisation for these conditions.

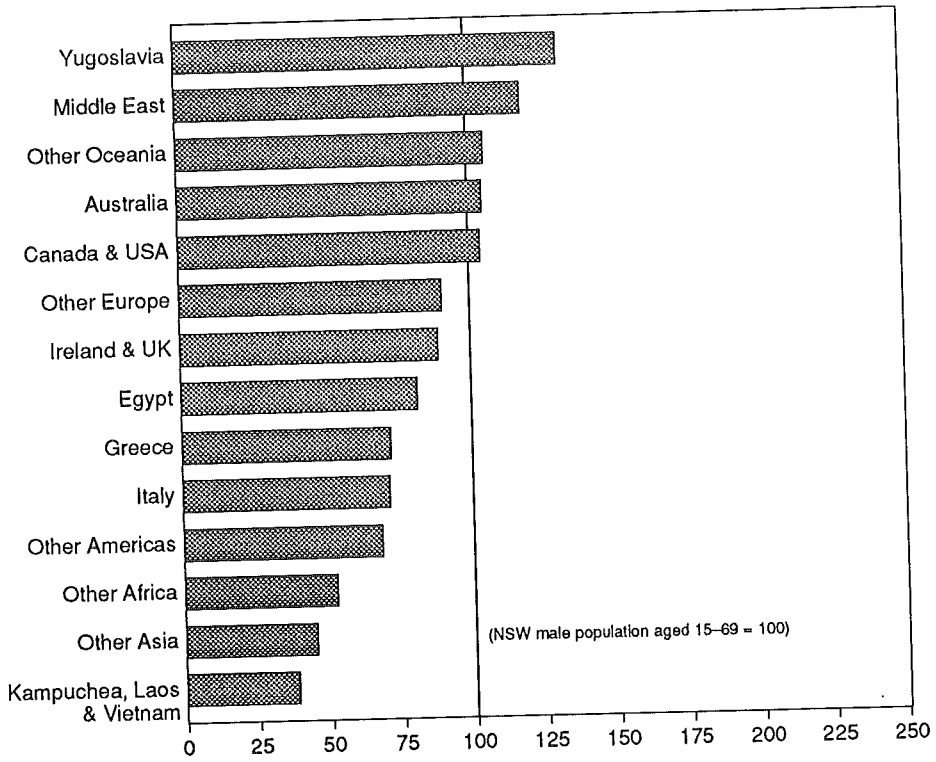
Figure 6.26: *Age-adjusted hospital separation ratios for injury and poisoning for women aged 15 to 69 years by country/region of birth, NSW, 1986*



Women born in Yugoslavia and the Middle East had the highest level of hospitalisation for injuries and poisonings. They had levels 55 and 40 per cent higher, respectively, than all NSW women.

There was little difference between women born in Australia, Other Europe, and Other Oceania relative to all NSW women while women born in Asia had the lowest levels of hospitalisation, about 50 per cent of all NSW women.

Figure 6.27: *Age-adjusted hospital separation ratios for injury and poisoning for men aged 15 to 69 years by country/region of birth, NSW, 1986*



Men born in Yugoslavia and the Middle East had a 32 and 19 per cent significantly higher hospitalisation level respectively for injury and poisoning compared with the NSW male population.

By contrast the hospitalisation levels were not significantly different when contrasting the levels for men born in Oceania and Canada & USA.

Men born in Asia had about 60 per cent less hospitalisation for these causes compared with all NSW men.

6.4 Discussion

That the data refer only to separations from NSW hospitals in 1986 is a major limitation of the analysis. As already discussed, the provision of a coherent national picture is not possible because of the differences in coverage of hospital separation information presently collected in the various States and Territories. These problems are, however, being addressed in a more comprehensive project currently being undertaken by Dr E Kliewer of the National Centre for Epidemiology and Population Health at the Australian National University.

It is impossible in an analysis of this type to come up with with one single set of summary figures that encapsulates whether any one particular group of people is at definite disadvantage. After adjusting for the effect of age, it is apparent that women and men born in Australia were more likely to be hospitalised than those born overseas. This is not so surprising since most migrants have to undergo strict medical examinations to gain permanent residency in Australia. An additional way of visualising this information is presented in Tables 6.18 and 6.19. These tables show the relative position of each country of birth for each cause of death analysed in the report.

Women born in the Middle East experienced the highest level of hospitalisations for all causes. This level is, however, highly influenced by pregnancy related admissions. When these conditions are excluded from the analysis, women from the Middle East move from first to seventh position, while women born in Australia move from second to first place and those born in Italy move from seventh to fourth place. Among those born overseas, the analysis of hospitalisation by diagnosis at separation from hospital showed that no one group was consistently worse off. There were, however, some surprising results. For example:

- women born in the Middle East experienced the highest level of hospitalisation for ischemic heart disease
- women born in Canada & USA had the highest level of hospitalisation for cerebrovascular disease while at the same time showing the lowest level for ischemic heart disease
- women born in Asia experienced the lowest rate of hospitalisation for almost all causes.

The analysis for men also presented some unexpected results. Men born in Egypt, Asia (other than Kampuchea, Laos & Vietnam), and the Middle East reported the highest level of hospitalisation for ischemic heart disease. As for women, men born in Canada & USA experienced the highest level for cerebrovascular disease while at the same time registering among the lowest level of hospitalisation for all other diseases of the circulatory system.

Table 6.1: *Age-adjusted hospital separation ratios for all causes for men and women aged 15–69 years by country/region of birth, NSW, 1986*

	Men			Women		
		95% CI			95% CI	
Country/region of birth	**Ratio**	**Lower**	**Upper**	**Ratio**	**Lower**	**Upper**
Reference group:						
Total population of NSW	100.0			100.0		
Oceania:						
Australia	105.3	104.9	105.7	103.0	102.7	103.4
Other Oceania	95.6	93.1	98.2	97.4	95.5	99.2
Africa:						
Egypt	87.9	83.0	93.0	101.1	96.3	105.9
Other Africa	67.8	64.0	71.9	81.8	78.5	85.3
Americas:						
Canada & USA	85.6	80.9	90.6	85.6	81.8	89.6
Other Americas	81.8	77.8	85.9	99.8	96.5	103.2
Asia:						
Kampuchea, Laos & Vietnam	40.3	37.9	42.8	54.1	51.9	56.3
Other Asia	64.4	62.7	66.3	78.7	77.3	80.2
Europe:						
Greece	90.6	87.7	93.6	88.2	85.6	90.8
Ireland & UK	84.4	83.3	85.6	89.9	88.9	91.0
Italy	86.1	84.0	88.2	93.9	91.7	96.2
Yugoslavia	100.7	98.0	103.5	91.1	88.8	93.5
Other Europe	95.1	93.7	96.6	95.0	93.6	96.4
Middle East	99.5	97.0	102.1	112.7	110.4	115.0

Source: AIHW

Table 6.2: *Age-adjusted hospital separation ratios for all causes of hospital separations except those related to pregnancy for women aged 15–69 years by country/region of birth, NSW, 1986*

	Women		
		95% CI	
Country/region of birth	**Ratio**	**Lower**	**Upper**
Reference group:			
Total population of NSW	100.0		
Oceania:			
Australia	104.4	104.0	104.8
Other Oceania	94.3	92.1	96.5
Africa:			
Egypt	96.9	91.7	102.2
Other Africa	77.4	73.6	81.4
Americas:			
Canada & USA	84.5	79.9	89.2
Other Americas	98.6	94.7	102.5
Asia:			
Kampuchea, Laos & Vietnam	37.0	34.8	39.3
Other Asia	67.0	65.4	68.6
Europe:			
Greece	88.1	85.3	91.0
Ireland & UK	88.9	87.7	90.0
Italy	95.1	92.7	97.5
Yugoslavia	89.8	87.2	92.5
Other Europe	94.6	93.1	96.1
Middle East	93.1	90.6	95.6

Source: AIHW

Table 6.3: *Age-adjusted hospital separation ratios for all diseases of the circulatory system for men and women aged 15–69 years by country/region of birth, NSW, 1986*

	Men			Women		
		95% CI			95% CI	
Country/region of birth	Ratio	Lower	Upper	Ratio	Lower	Upper
Reference group:						
Total population of NSW	100.0			100.0		
Oceania:						
Australia	104.9	103.6	106.2	104.3	102.8	105.9
Other Oceania	116.3	107.0	126.3	95.4	85.4	106.2
Africa:						
Egypt	107.8	93.3	123.8	89.3	72.0	109.5
Other Africa	93.4	78.8	110.0	83.2	66.6	102.6
Americas:						
Canada & USA	89.7	75.0	106.4	60.8	44.8	80.6
Other Americas	82.2	69.1	97.0	97.1	80.7	115.8
Asia:						
Kampuchea, Laos & Vietnam	39.2	30.2	50.0	47.4	35.5	62.0
Other Asia	92.3	85.6	99.4	69.6	62.9	76.8
Europe:						
Greece	71.2	64.3	78.6	84.4	74.0	95.8
Ireland & UK	86.5	83.4	89.7	89.0	84.7	93.3
Italy	73.9	68.8	79.2	85.4	77.5	93.9
Yugoslavia	70.5	64.2	77.3	71.0	61.9	81.0
Other Europe	101.1	97.0	105.2	98.7	93.3	104.3
Middle East	93.3	85.5	101.6	100.9	90.0	112.8

Source: AIHW

Table 6.4 *Age-adjusted hospital separation ratios for ischemic heart disease for men and women aged 15–69 years by country/region of birth, NSW, 1986*

	Men			Women		
		95% CI			95% CI	
Country/region of birth	**Ratio**	**Lower**	**Upper**	**Ratio**	**Lower**	**Upper**
Reference group:						
Total population of NSW	100.0			100.0		
Oceania:						
Australia	103.4	101.6	105.4	107.0	104.0	110.1
Other Oceania	106.0	92.4	121.1	66.0	48.8	87.4
Africa:						
Egypt	149.9	125.1	178.1	76.3	47.4	116.3
Other Africa	87.2	66.2	112.8	88.6	54.2	136.7
Americas:						
Canada & USA	59.8	42.3	82.1	35.2	12.7	77.2
Other Americas	74.9	56.4	97.4	78.3	47.9	120.9
Asia:						
Kampuchea, Laos & Vietnam	15.5	7.2	28.9	48.3	22.6	90.1
Other Asia	123.9	112.2	136.5	78.9	64.3	95.7
Europe:						
Greece	76.1	66.0	87.3	65.6	47.9	87.6
Ireland & UK	89.5	84.9	94.4	84.9	77.1	93.4
Italy	66.9	60.0	74.3	52.2	40.8	65.7
Yugoslavia	57.8	49.5	67.0	47.9	33.5	66.5
Other Europe	106.0	100.0	112.3	92.1	82.4	102.6
Middle East	118.0	105.0	132.2	110.5	86.6	138.9

Source: AIHW

Table 6.5: *Age-adjusted hospital separation ratios for cerebrovascular disease for men and women aged 15–69 years by country/region of birth, NSW, 1986*

	Men			Women		
		95% CI			95% CI	
Country/region of birth	**Ratio**	**Lower**	**Upper**	**Ratio**	**Lower**	**Upper**
Reference group:						
Total population of NSW	100.0			100.0		
Oceania:						
Australia	109.4	105.4	113.4	105.9	101.2	110.8
Other Oceania	130.3	98.8	168.8	111.8	77.5	156.0
Africa:						
Egypt	42.3	18.2	83.2	77.5	34.1	150.7
Other Africa	54.7	22.7	110.2	149.2	81.1	251.0
Americas:						
Canada & USA	142.1	87.8	217.4	164.5	83.4	291.1
Other Americas	36.0	11.2	85.3	71.2	29.7	143.3
Asia:						
Kampuchea, Laos & Vietnam	35.3	10.6	85.5	53.4	16.0	129.5
Other Asia	76.9	57.8	100.1	45.4	29.0	67.5
Europe:						
Greece	54.8	36.4	79.1	94.8	61.2	140.2
Ireland & UK	75.2	66.5	84.7	80.5	68.6	93.9
Italy	69.3	54.6	86.6	82.2	59.3	111.0
Yugoslavia	91.4	68.6	119.4	62.2	36.6	98.7
Other Europe	86.2	75.2	98.4	92.9	77.5	110.5
Middle East	41.9	26.0	64.0	62.8	36.3	101.1

Source: AIHW

Table 6.6: *Age-adjusted hospital separation ratios for cerebrovascular disease for men and women aged 15–69 years by country/region of birth, NSW, 1986*

	Men			Women		
		95% CI			95% CI	
Country/region of birth	Ratio	Lower	Upper	Ratio	Lower	Upper
Reference group:						
Total population of NSW	100.0			100.0		
Oceania:						
Australia	109.4	105.4	113.4	105.9	101.2	110.8
Other Oceania	130.3	98.8	168.8	111.8	77.5	156.0
Africa:						
Egypt	42.3	18.2	83.2	77.5	34.1	150.7
Other Africa	54.7	22.7	110.2	149.2	81.1	251.0
Americas:						
Canada & USA	142.1	87.8	217.4	164.5	83.4	291.1
Other Americas	36.0	11.2	85.3	71.2	29.7	143.3
Asia:						
Kampuchea, Laos & Vietnam	35.3	10.6	85.5	53.4	16.0	129.5
Other Asia	76.9	57.8	100.1	45.4	29.0	67.5
Europe:						
Greece	54.8	36.4	79.1	94.8	61.2	140.2
Ireland & UK	75.2	66.5	84.7	80.5	68.6	93.9
Italy	69.3	54.6	86.6	82.2	59.3	111.0
Yugoslavia	91.4	68.6	119.4	62.2	36.6	98.7
Other Europe	86.2	75.2	98.4	92.9	77.5	110.5
Middle East	41.9	26.0	64.0	62.8	36.3	101.1

Source: AIHW

Table 6.7: *Age-adjusted hospital separation ratios for hypertensive diseases for men and women aged 15–69 years by country/region of birth, NSW, 1986*

	Men			Women		
		95% CI			95% CI	
Country/region of birth	**Ratio**	**Lower**	**Upper**	**Ratio**	**Lower**	**Upper**
Reference group:						
Total population of NSW	100.0			100.0		
Oceania:						
Australia	111.8	104.2	119.9	112.3	106.1	118.8
Other Oceania	132.7	81.0	204.9	128.0	85.2	184.8
Africa:						
Egypt	99.8	33.5	227.9	60.5	16.5	153.8
Other Africa	42.2	4.7	152.4	83.2	28.6	187.6
Americas:						
Canada & USA	100.9	29.3	248.5	–	–	–
Other Americas	56.4	11.3	164.7	77.1	28.7	165.9
Asia:						
Kampuchea, Laos & Vietnam	–	–	–	59.6	16.3	151.7
Other Asia	51.4	26.4	90.3	52.7	31.7	82.5
Europe:						
Greece	12.7	1.5	44.9	50.9	23.9	94.7
Ireland & UK	61.6	46.9	79.5	60.9	47.7	76.5
Italy	43.0	22.9	73.5	65.5	40.8	99.5
Yugoslavia	77.9	43.4	128.8	64.4	34.3	110.1
Other Europe	108.8	85.2	136.9	64.1	48.0	84.0
Middle East	92.8	52.9	150.9	66.7	35.5	114.1

Source: AIHW

Table 6.8: *Age-adjusted hospital separation ratios for all other diseases of the circulatory system for men and women aged 15–69 years by country/region of birth, NSW, 1986*

	Men			Women		
		95% CI			95% CI	
Country/region of birth	**Ratio**	**Lower**	**Upper**	**Ratio**	**Lower**	**Upper**
Reference group:						
Total population of NSW	100.0			100.0		
Oceania:						
Australia	104.8	102.8	106.8	101.9	99.9	103.9
Other Oceania	121.9	107.9	137.1	99.5	86.9	113.4
Africa:						
Egypt	76.1	57.5	98.8	101.2	76.9	130.8
Other Africa	110.4	87.1	138.0	72.0	52.9	95.6
Americas:						
Canada & USA	106.7	82.8	135.3	60.8	41.2	86.5
Other Americas	98.9	78.0	123.8	108.1	86.9	132.9
Asia:						
Kampuchea, Laos & Vietnam	59.4	44.2	78.2	45.4	31.5	63.2
Other Asia	66.8	58.3	76.2	71.5	62.9	81.0
Europe:						
Greece	73.3	62.3	85.6	94.2	80.2	110.0
Ireland & UK	87.9	83.0	93.1	95.8	89.9	101.9
Italy	86.1	77.4	95.5	105.2	93.4	118.2
Yugoslavia	80.1	69.5	91.7	82.2	69.8	96.3
Other Europe	98.7	92.5	105.3	107.4	99.8	115.5
Middle East	78.6	67.9	90.4	106.3	92.2	121.8

Source: AIHW

Table 6.9: *Age-adjusted hospital separation ratios for all neoplasms for women aged 15–69 years by country/region of birth, NSW, 1986*

	Men			Women		
		95% CI			95% CI	
Country/region of birth	**Ratio**	**Lower**	**Upper**	**Ratio**	**Lower**	**Upper**
Reference group:						
Total population of NSW	100.0			100.0		
Oceania:						
Australia	107.6	106.0	109.2	103.1	101.7	104.5
Other Oceania	116.4	105.1	128.5	133.9	124.0	144.5
Africa:						
Egypt	45.1	33.7	59.0	83.4	68.1	101.1
Other Africa	78.7	62.5	97.8	94.8	79.6	112.0
Americas:						
Canada & USA	89.3	71.6	110.1	110.5	91.9	131.9
Other Americas	85.5	69.2	104.5	94.2	80.8	109.2
Asia:						
Kampuchea, Laos & Vietnam	75.1	60.5	92.1	50.6	40.6	62.4
Other Asia	64.6	57.8	72.0	71.2	65.3	77.4
Europe:						
Greece	61.1	53.0	70.0	90.4	81.1	100.5
Ireland & UK	88.0	84.0	92.0	88.2	84.4	92.2
Italy	65.8	59.7	72.2	86.6	79.3	94.4
Yugoslavia	71.8	63.7	80.7	80.9	72.5	90.0
Other Europe	93.5	88.7	98.6	104.3	99.1	109.7
Middle East	54.8	47.5	62.8	79.8	71.6	88.7

Source: AIHW

Table 6.10: *Age-adjusted hospital separation ratios for neoplasm of trachea, bronchus, and lung for men and women aged 15–69 years by country/region of birth, NSW, 1986*

	Men			Women		
		95% CI			95% CI	
Country/region of birth	**Ratio**	**Lower**	**Upper**	**Ratio**	**Lower**	**Upper**
Reference group:						
Total population of NSW	100.0			100.0		
Oceania:						
Australia	97.1	92.4	102.0	92.5	85.0	100.5
Other Oceania	172.7	125.9	231.3	172.5	102.0	273.0
Africa:						
Egypt	69.4	30.7	134.6	–	–	–
Other Africa	–	–	–	31.3	0.4	174.0
Americas:						
Canada & USA	57.6	19.1	132.6	137.0	30.5	383.0
Other Americas	228.5	134.3	363.4	115.4	32.7	288.2
Asia:						
Kampuchea, Laos & Vietnam	89.0	33.3	191.0	72.9	8.6	259.0
Other Asia	64.2	42.6	93.0	55.9	27.0	102.3
Europe:						
Greece	98.0	67.0	138.4	57.1	19.3	129.8
Ireland & UK	131.2	116.8	146.9	201.7	169.6	238.1
Italy	69.2	51.3	91.4	78.2	43.2	130.2
Yugoslavia	140.0	104.4	183.8	69.7	28.2	142.9
Other Europe	98.1	83.5	114.5	85.5	61.5	115.6
Middle East	68.0	42.0	104.3	94.2	42.3	180.7

Source: AIHW

Table 6.11: *Age-adjusted hospital separation ratios for all other neoplasms for men and women aged 15–69 years by country/region of birth, NSW, 1986*

Country/region of birth	Men			Women		
		95% CI			95% CI	
	Ratio	Lower	Upper	Ratio	Lower	Upper
Reference group:						
Total population of NSW	100.0			100.0		
Oceania:						
Australia	108.7	107.1	110.4	103.4	102.0	104.8
Other Oceania	111.7	100.2	124.1	133.1	123.1	143.7
Africa:						
Egypt	42.2	30.7	56.7	86.0	70.3	104.3
Other Africa	85.4	67.8	106.1	96.2	80.8	113.8
Americas:						
Canada & USA	92.5	73.6	114.8	110.0	91.2	131.5
Other Americas	74.9	59.1	93.5	93.8	80.3	108.9
Asia:						
Kampuchea, Laos & Vietnam	74.2	59.3	91.7	50.2	40.1	62.1
Other Asia	64.6	57.5	72.4	71.6	65.6	77.9
Europe:						
Greece	57.1	48.9	66.3	91.3	81.8	101.6
Ireland & UK	82.8	78.8	87.0	84.6	80.8	88.6
Italy	65.3	59.0	72.2	86.9	79.5	94.9
Yugoslavia	64.9	56.8	73.7	81.2	72.6	90.4
Other Europe	93.0	87.9	98.3	105.0	99.7	110.4
Middle East	53.6	46.1	61.9	79.5	71.2	88.4

Source: AIHW

Table 6.12: *Age-adjusted hospital separation ratios for neoplasm of the breast for women aged 15–69 years by country/region of birth, NSW, 1986*

Country/region of birth	Women		
		95% CI	
	Ratio	Lower	Upper
Reference group:			
Total population of NSW	100.0		
Oceania:			
Australia	106.5	102.3	110.8
Other Oceania	112.2	84.0	146.9
Africa:			
Egypt	80.0	41.0	140.5
Other Africa	173.9	113.4	255.3
Americas:			
Canada & USA	83.7	38.4	158.3
Other Americas	128.0	82.5	189.7
Asia:			
Kampuchea, Laos & Vietnam	54.4	23.2	108.0
Other Asia	62.6	46.4	82.8
Europe:			
Greece	80.4	56.7	110.6
Ireland & UK	82.4	71.7	94.3
Italy	64.2	47.3	85.2
Yugoslavia	50.1	32.1	74.5
Other Europe	94.1	80.3	109.6
Middle East	69.1	46.7	98.5

Source: AIHW

Table 6.13: *Age-adjusted hospital separation ratios for neoplasm of the prostate for men aged 15–69 years by country/region of birth, NSW, 1986*

	Men		
		95% CI	
Country/region of birth	**Ratio**	**Lower**	**Upper**
Reference group:			
Total population of NSW	100.0		
Oceania:			
Australia	113.6	105.5	122.2
Other Oceania	34.8	7.2	100.3
Africa:			
Egypt	45.5	5.1	164.4
Other Africa	–	–	–
Americas:			
Canada & USA	87.8	17.6	256.5
Other Americas	–	–	–
Asia:			
Kampuchea, Laos & Vietnam	–	–	–
Other Asia	66.9	32.0	123.0
Europe:			
Greece	71.4	29.0	145.9
Ireland & UK	78.6	61.2	99.3
Italy	55.8	30.4	93.9
Yugoslavia	25.9	5.2	75.8
Other Europe	71.3	51.8	95.7
Middle East	25.5	4.0	82.3

Source: AIHW

Table 6.14: *Age-adjusted hospital separation ratios for diseases of the respiratory system for men and women aged 15–69 years by country/region of birth, NSW, 1986*

Country/region of birth	Men			Women		
		95% CI			95% CI	
	Ratio	Lower	Upper	Ratio	Lower	Upper
Reference group:						
Total population of NSW	100.0			100.0		
Oceania:						
Australia	108.4	106.6	110.3	108.3	106.5	110.2
Other Oceania	95.3	84.6	107.0	90.4	80.3	101.5
Africa:						
Egypt	81.5	61.9	105.3	102.4	77.6	132.6
Other Africa	66.3	50.1	85.9	64.8	48.6	84.7
Americas:						
Canada & USA	82.8	63.4	106.4	79.0	59.1	103.4
Other Americas	86.5	68.9	107.2	87.1	70.2	106.9
Asia:						
Kampuchea, Laos & Vietnam	64.2	51.5	79.1	39.0	28.8	51.6
Other Asia	60.7	53.2	68.9	52.6	45.9	60.0
Europe:						
Greece	61.7	51.3	73.6	68.3	56.0	82.6
Ireland & UK	85.2	80.3	90.2	86.1	80.6	91.8
Italy	72.8	64.5	81.9	82.1	71.3	94.2
Yugoslavia	75.4	65.3	86.8	55.7	45.8	67.1
Other Europe	69.5	64.1	75.2	70.6	64.3	77.4
Middle East	88.6	78.2	100.1	56.5	47.7	66.5

Source: AIHW

Table 6.15: *Age-adjusted hospital separation ratios for diseases of the genitourinary system for men and women aged 15–69 years by country/region of birth, NSW, 1986*

	Men			Women		
		95% CI			95% CI	
Country/region of birth	Ratio	Lower	Upper	Ratio	Lower	Upper
Reference group:						
Total population of NSW	100.0			100.0		
Oceania:						
Australia	100.5	98.8	102.2	102.1	101.2	103.0
Other Oceania	116.9	104.8	130.1	96.4	91.8	101.2
Africa:						
Egypt	134.4	110.8	161.5	109.0	97.2	121.9
Other Africa	89.3	70.5	111.6	87.8	79.4	96.9
Americas:						
Canada & USA	64.1	47.5	84.6	118.1	107.1	129.9
Other Americas	113.5	93.2	136.8	109.5	101.2	118.4
Asia:						
Kampuchea, Laos & Vietnam	46.2	34.8	60.3	34.6	30.3	39.4
Other Asia	81.7	73.2	91.0	73.1	69.6	76.6
Europe:						
Greece	140.9	126.4	156.6	105.0	98.4	111.8
Ireland & UK	89.7	85.1	94.5	96.8	94.2	99.6
Italy	108.8	99.6	118.7	109.5	103.8	115.5
Yugoslavia	82.0	72.1	92.9	89.9	84.4	95.7
Other Europe	103.9	97.9	110.2	101.9	98.3	105.5
Middle East	117.5	105.6	130.3	96.1	91.0	101.4

Source: AIHW

Table 6.16: *Age-adjusted hospital separation ratios for injury and poisoning for men and women aged 15–69 years by country/region of birth, NSW, 1986*

Country/region of birth	Men			Women		
		95% CI			95% CI	
	Ratio	Lower	Upper	Ratio	Lower	Upper
Reference group:						
Total population of NSW	100.0			100.0		
Oceania:						
Australia	104.8	103.7	105.9	102.5	101.0	104.0
Other Oceania	105.8	99.4	112.5	99.3	90.8	108.4
Africa:						
Egypt	81.2	67.3	97.1	80.5	62.4	102.3
Other Africa	52.2	43.8	61.7	68.4	54.9	84.2
Americas:						
Canada & USA	103.9	90.3	118.8	76.3	60.6	94.9
Other Americas	68.0	59.1	77.8	80.8	67.8	95.7
Asia:						
Kampuchea, Laos & Vietnam	38.4	33.2	44.1	50.3	41.0	61.1
Other Asia	44.8	41.0	48.8	56.3	50.7	62.3
Europe:						
Greece	71.5	63.6	80.1	74.9	64.3	86.8
Ireland & UK	88.7	85.3	92.2	92.4	87.8	97.3
Italy	70.8	64.7	77.3	71.9	63.5	81.2
Yugoslavia	131.9	123.0	141.3	155.9	142.2	170.6
Other Europe	90.3	85.8	95.0	100.2	93.9	106.8
Middle East	118.8	111.6	126.3	142.1	130.7	154.2

Source: AIHW

Table 6.17: *Age-adjusted hospital separation ratios for all other causes of hospitalisation for men and women aged 15–69 years by country/region of birth, NSW, 1986*

	Men			Women		
		95% CI			95% CI	
Country/region of birth	**Ratio**	**Lower**	**Upper**	**Ratio**	**Lower**	**Upper**
Reference group:						
Total population of NSW	100.0			100.0		
Oceania:						
Australia	105.4	104.8	105.9	102.9	102.5	103.4
Other Oceania	85.9	82.9	89.1	95.4	93.2	97.6
Africa:						
Egypt	86.4	80.1	93.2	103.7	97.6	110.0
Other Africa	65.1	60.2	70.3	81.0	76.9	85.2
Americas:						
Canada & USA	82.2	76.1	88.7	78.2	73.8	82.8
Other Americas	82.1	76.9	87.5	99.9	95.8	104.2
Asia:						
Kampuchea, Laos & Vietnam	35.7	32.8	38.8	59.6	56.9	62.4
Other Asia	63.5	61.2	65.9	84.0	82.2	85.9
Europe:						
Greece	100.1	96.1	104.3	85.2	81.9	88.6
Ireland & UK	81.9	80.5	83.4	88.4	87.2	89.7
Italy	93.9	90.9	96.9	94.0	91.1	96.9
Yugoslavia	108.6	104.9	112.4	90.8	87.9	93.8
Other Europe	96.2	94.2	98.2	92.5	90.8	94.3
Middle East	99.9	96.6	103.4	120.2	117.4	123.1

Source: AIHW

Table 6.18: *Matrix of relative position for various causes of hospital separations for women aged 15–69 years by country/region of birth, NSW, 1986*

Country/region of birth	All causes	Diseases of the circulatory system	Ischemic heart disease	Cerebrovascular disease	Hypertensive diseases	Other diseases of the circulatory system	All neoplasms	Neoplasm of trachea, bronchus and lung	All other neoplasms	Neoplasm of the breast	Diseases of the respiratory system	Diseases of the genito–urinary system	Injury and poisoning	All other causes	All causes except pregnancy related causes
Oceania:															
Australia	2	1	2	4	2	5	4	6	4	4	1	6	3	3	1
Other Oceania	5	5	9	3	1	7	1	2	1	3	3	9	5	5	6
Africa:															
Egypt	3	6	8	9	10	6	10	14	9	8	2	4	8	2	3
Other Africa	12	10	4	2	3	11	5	13	5	1	10	12	12	12	12
Americas:															
Canada & USA	11	13	14	1	14	13	2	3	2	6	7	1	9	13	11
Other Americas	4	4	7	10	4	1	6	4	6	2	4	3	7	4	2
Asia:															
Kampuchea, Laos & Vietnam	14	14	12	13	11	14	14	9	14	13	14	14	14	14	14
Other Asia	13	12	6	14	12	12	13	12	13	12	13	13	13	11	13
Europe:															
Greece	7	9	10	5	13	9	7	11	7	9	9	5	10	10	10
Italy	10	8	11	7	6	4	9	8	8	11	6	2	11	6	4
Ireland & UK	9	7	5	8	9	8	8	1	10	7	5	8	6	9	9
Yugoslavia	8	11	13	12	7	10	11	10	11	14	12	11	1	8	8
Other Europe	6	3	3	6	8	2	3	7	3	5	8	7	4	7	5
Middle East	1	2	1	11	5	3	12	5	12	10	11	10	2	1	7

Source: AIHW

Table 6.19: *Matrix of relative position for various causes of hospital separations for women aged 15–69 years by country/region of birth, NSW, 1986*

Country/region of birth	All causes	Diseases of the circulatory system	Ischemic heart disease	Cerebrovascular disease	Hypertensive diseases	Other diseases of the circulatory system	All neoplasms	Neoplasm of trachea, bronchus and lung	All other neoplasms	Neoplasm of the prostate	Diseases of the respiratory system	Diseases of the genito–urinary system	Injury and poisoning	All other causes
Oceania:														
Australia	1	3	6	3	2	4	2	6	2	1	1	8	4	2
Other Oceania	4	1	5	2	1	1	1	2	1	9	2	4	3	7
Africa:														
Egypt	7	2	1	11	5	11	14	9	14	8	7	2	8	8
Other Africa	12	5	8	10	12	2	7	14	5	12	11	10	12	12
Americas:														
Canada & USA	9	8	12	1	4	3	4	13	4	2	6	13	5	9
Other Americas	11	10	10	13	9	5	6	1	8	12	4	5	11	10
Asia:														
Kampuchea, Laos & Vietnam	14	14	14	14	14	14	8	8	7	12	12	14	14	14
Other Asia	13	7	2	6	10	13	11	12	10	6	14	12	13	13
Europe:														
Greece	6	12	9	9	13	12	12	7	12	4	13	1	9	4
Italy	8	11	11	8	11	8	10	10	9	7	9	6	10	6
Ireland & UK	10	9	7	7	8	7	5	4	6	3	5	9	7	11
Yugoslavia	2	13	13	4	7	9	9	3	11	10	8	11	1	1
Other Europe	5	4	4	5	3	6	3	5	3	5	10	7	6	5
Middle East	3	6	3	12	6	10	13	11	13	11	3	3	2	3

Source: AIHW

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7 Women's health, use of medical services, medication, lifestyle and chronic illness: some findings from the 1989–90 National Health Survey

Christabel Young and Anne Coles

7.1 Introduction

This chapter describes some of the findings from the 1989–90 National Health Survey conducted by the Australian Bureau of Statistics. This survey was conducted from October 1989 to September 1990 and covered about 57,000 persons in around 22,000 households, representing a sample of about 1 in 300. The survey covered both rural and urban areas, and both private and non-private dwellings, but excluded persons in boarding schools, military establishments, hospitals, and nursing and convalescent homes. Also excluded were diplomatic personnel, non-Australian service personnel and overseas visitors. The sample was derived from a multi-stage area sample of private dwellings and from a sample list of non-private dwellings. A three-stage area sample was used for private dwellings in cities, major urban areas and other areas of high density. The main survey was conducted through personal interviews, and in addition women aged 18–64 years were asked to complete a questionnaire relating to women's health issues, and to return this to the interviewer in a sealed envelope. Altogether there was a high response rate for both the main interview, and for the women's health questionnaire.

The 1989–90 National Health Survey covered a very wide range of health-related topics, and it would be impossible to cover all of these in one chapter. Therefore, this chapter examines birthplace differences for a group of selected topics from the survey. The aim was to select topics which were perceived to be the most relevant to birthplace differences with regard to women's health, medication, lifestyle, access to health services, and prevalence of chronic illnesses. However, there is certainly scope for further analysis of the data, for example, with respect to multivariate analysis, the additional effect of socioeconomic differences, and a more detailed analysis of the complex area of acute and chronic illnesses. Although food consumption patterns and nutrition are recognised as important factors in well-being, the data in the 1989–90 Survey were not included in this analysis, because they refer only to *changes* in dietary patterns, with no information collected about *actual* dietary levels, either before or after any change.

The aim of this analysis was to observe the experience of migrants from as many individual countries of birth as possible, rather than to group migrants according to broad regions of origin, and in several instances the analysis highlights the variation which exists between the experience of persons from different countries within the same region. Another aim was to take into account the age differences between each birthplace population, particularly the differences between the immigrant populations and the Australian-born population. A further important aim was to take account of the different experience of men and women; accordingly all the analyses have been carried out separately for males and females.

Although it is common to group migrants according to broad regions of origin, this may not be the most appropriate scale of aggregation when dealing with health issues. The regions contain countries which are very different in culture, religion, socioeco-

nomic structure and health care provision. Moreover, migrants from each country come to Australia for different reasons and from different sections of society, thus they come with different perceptions of health and different experiences of health services. Once in Australia, access to and use of health care facilities can reasonably be expected to vary too. From a practical point of view, in order to illuminate the needs of particular migrant groups, analysis at the birthplace level is essential. On the other hand, when the numbers are small, some aggregation is needed to provide an overall view, but such aggregated data must be interpreted carefully.

7.2 Methodology

Most of the analysis refers to the age group 15–74 years. The exceptions are that the data relating to smoking and alcohol consumption refer to ages 18–74 years, and the information from the women's health questionnaire refers to ages 18–64 years, and to 18–50 years with regard to use of the contraceptive pill. Table 7.1 lists the base population at ages 15–74 years for males, and at ages 15–74 and 18–64 years for females for each of the birthplaces studied. As the sample represents about 1 out of 300 of the total population, this means that the number in the sample represents approximately 1/300 of the number of persons given in Table 7.1.

In the subsequent discussion of the experience of the various overseas-born populations, for brevity, the regional group consisting of other north-east Europe, the former USSR and the Baltic States will be referred to as north-east Europe.

Three approaches have been used in the analysis: (a) age-standardised ratios of the proportions experiencing a given condition, having a particular lifestyle, or taking some health-related action; (b) age-specific prevalence rates (proportions) in relation to these variables; and (c) scatter-plot diagrams as an indication of possible association between pairs of variables.

In the calculation of age-standardised ratios, the expected numbers were derived from age-specific prevalence rates for total Australia with regard to 10-year age groups, applied to the base population in 10-year age groups for each birthplace. Age-standardised ratios have been included in the tables only if the observed or expected numbers with a given characteristic for a given birthplace were equal to or greater than 4,500, or equal to or greater than 4,000 if the resulting age-standardised ratio is significantly different from 100 at the 5 per cent level. On the assumption that the sample represents 1/300 of the actual population with a given birthplace, then this means that the number in the sample with a given characteristic had to be equal to or greater than 15 (or greater than 13 when the results were significant). The assumption that the sample represented 1/300 of the base population also played a part in the calculation of the chi-square test of significance (see Chapter 5 for details of this test).

One of the main purposes of calculating age-specific rates was to indicate the variation by age which occurred with respect to a given condition or action. A wide variation in age-specific rates over the range 15–74 years would indicate the deficiency of a crude or aggregate rate, while little variation would indicate that a crude rate would provide a reasonable indication of differences between birthplaces.

With the main exception of the data from the women's health questionnaire, most of the data by birthplace provided by the Australian Bureau of Statistics was in 20-year age groups, 15–34, 35–54 and 55–74 years (and for 75+ years). Age-specific rates relating to a 20-year age range are more reliable than aggregate rates for the age span 15–74 years. However, 20-year age-specific rates also need to be treated with caution if either

(a) the proportion with that particular characteristic changes with age within the 20-year span; or (b) the age structures within the 20-year group of the populations being compared are markedly different. Table 7.2 indicates that the age structures of the Australian-born and total overseas-born population are similar within the 35–54 and within the 55–74 year age groups but the Australian-born population is considerably younger within the 15–34 and the 18–34 years age goups. Accordingly, comparisons of the experience of the Australian-born and total overseas-born populations within the 35–54 or within the 55–74 year age groups are reliable, but comparisons within the 15–34 or 18–34 year age groups may not be.

In the comparison of the Australian-born population with individual birthplace populations the analysis of age-specific rates has usually been restricted to ages 35–54 years, because this is the age group where the numbers in the population are greatest and where the age-specific rates vary least between each age, and this age group is important as an indication of any premature incidence of risk or disadvantage. However, as Figure 7.1 indicates, comparisons of individual overseas-born populations with the Australian-born population at ages 35–54 years may be unreliable if a given birthplace population is much younger (e.g. men from the United States, and parts of north-east and South-East Asia) or much older (e.g. Greek, Yugoslav, and Chinese men) than the Australian-born population. However, this problem is overcome if the age-specific rates at ages 35–44 and 45–54 years are similar. Table 7.3 shows the ratio of the age-specific rates at ages 45–54 and to the rates at ages 35–44 years for total Australia with respect to the selected variables. With the range in age structures which exists between each birthplace within the 35–54 year age group, prevalence rates over the 20-year age span will differ from the Australian rate because of a difference in age structure by less than 5% if the ratio lies between 0.7 and 1.3, and by less than 10% if the ratio lies between 0.4 and 1.6. In other words, even a ratio which differs from unity by 60% will result in a relatively small difference in a 20-year rate as a result of the existing differences in age structures between total Australia and the various birthplace groups. Accordingly, Table 7.3 indicates that comparisons of 20-year rates over ages 35–54 years are acceptable for most variables, including: knowledge and experience of the Pap test and breast examination among women; whether admitted to hospital, whether consulted a doctor, use of pain relievers; and proportions who exercised moderately, are overweight, who smoke, or who consumed alcohol, and proportions who suffer from chronic respiratory illness or musculoskeletal disorders.

In this chapter there are five scatter-plot diagrams which compare age-standardised measures of the level of medical tests or chronic illness relating to a given condition with the age-standardised mortality ratio relating to that condition (i.e. breast cancer, cancer of the genitourinary system, and diseases of the circulatory, respiratory and digestive systems). The purpose of the scatter-plot diagrams is not only to investigate whether the prevalence of a given disease in a birthplace group is a potential predictor of the level of mortality from that cause of death for that birthplace, but also to identify which birthplace groups depart from the expected relationship. The latter finding and the reasons for it are particularly interesting in relation to cultural differences in the perception of illness and in relation to the heterogeneity of conditions within a given disease category.

7.3 Awareness of women's health issues

Women's health is of particular interest when analysed according to country of birth. The position of women in society varies greatly according to country of origin and, often, according to the original socioeconomic class. Reproductive and sexual behav-

iour vary similarly. Four topics in the Women's Health questionnaire were analysed: (a) whether heard of or had a Pap test, (b) whether had a breast examination or examined her own breasts, and knowledge or experience of a mammogram, (c) whether had a hysterectomy, and (d) use of contraception. Age-specific prevalence rates for the Australian-born and overseas-born are given in Table 7.4.

Heard of, or had, a Pap test

In this set of questions, the women seemed to fall into two major groups. One group (see Table 7.5) had fairly high levels of knowledge or experience of this test , namely, women from Australia, UK & Ireland, western Europe, New Zealand and the United States, with the addition of those from Malta. The other group of women had lower levels of knowledge or experience, namely those from southern Europe, north-east Europe, Middle East, South-East Asia, north-east Asia, and south Asia. Women from Vietnam and China generally had the lowest rates.

A relatively small proportion of those aged 18–24 years had actually had the test (66% of Australian-born women and 54% of overseas-born women), but for each age group above this, around 90% or more of women from Australia, UK & Ireland, western Europe, New Zealand and the United States, had had the test. The proportions were smaller (around 60–80%) among women from Italy, Greece, Yugoslavia, Poland, Middle East & North Africa, Malaysia and India, with very low rates among those from Vietnam and China (45% and 59% at ages 35–44 years).

The age-specific proportions of women who had ever had a Pap test followed a similar pattern to that of knowledge about the test. While the proportions who had had the test among women from Australia, UK & Ireland, Western Europe, New Zealand and the United States decreased only slightly with increasing age (for example, from 95% to 86% from ages 25–34 to 55–64 years among Australian-born women) the rates for Southern European women decrease steeply (for example, from 86% at 25–34 years to 57% at ages 55–64 years among Italian-born women, and from 87% to 40% among Greek women). On the other hand, among Indians, Vietnamese and Malaysians the proportions increase markedly between ages 25–34 and 34–44 years (see Table 7.5 and Figure 7.2).

Age-standardised ratios over the age range 18–64 years (with total Australia having a value of 100) showed that the women most likely to have had a Pap test were those born in the United States (108) , Netherlands (108), UK & Ireland (104), New Zealand (104), Australia (103), Germany (103) and Malta (97), while those least likely were those born in Vietnam (39), China (43), Greece (70), Yugoslavia (71) and India (73) (see Table 7.6 and Figure 7.3).

The figures in Figure 7.3 also highlight the diversity between different birthplace groups from within a given geographic region. For example, women from Malta have a higher prevalence rate than those from other countries in Southern Europe, women from Germany and the Netherlands have a higher rate than for women from other parts of western Europe, and Polish women have a lower rate compared with women from the remainder of north-east Europe, etc. The prevalence rates are higher for Malaysia than for other South-East Asia, which in turn, are higher than for Vietnam. The rates for women from China are lower than for those from the remainder of north-east Asia. However, women from India are similar to those from the rest of south Asia. This indicates that aggregate figures for a given region often mask a wide diversity in the experience of women from different individual countries from within that region. Similarly, the figures for 'other' within each region are likely to hide a heterogeneous

group of birthplaces, and, for this reason, those results should not be given too much emphasis.

Breast examination

Relatively small proportions of women aged 18–24 years reported a breast examination (48% of Australian-born and 41% of overseas-born women) or had examined their own breasts (50% of Australian-born women and 43% of overseas-born women). Above ages 18–24 years the proportions were higher, and there was relatively little variation at each subsequent age. Over the age groups 25–34, 35–44, 45–54 and 55–64 years the proportions having a breast examination were 75, 82, 82 and 76% respectively among Australian-born women, and 68, 72, 72 and 68% among all overseas-born women. Over the same age ranges the proportions examining their own breasts were 63, 70, 70 and 67% among Australian-born women, and 57, 66, 65 and 66% among all overseas-born women (see Table 7.4). Apart from the youngest age group, more women reported a breast examination than had examined their own breasts. These figures and Table 7.4 suggest that there are both age differences and cultural differences in attitudes to breast examination.

The age-specific rates suggest that relatively higher proportions of women from Australia, UK & Ireland, western Europe, north-east Europe, United States and New Zealand reported a breast examination, or had examined their own breasts compared with women from southern Europe, Poland, Middle East & North Africa, and each of the Asian regions. There were particularly low rates among women from Vietnam and China (see Table 7.7).

Age-standardised ratios over the entire age range 18–64 years largely confirm these results, and show very high levels for women from the United States, followed by relatively high levels for those from New Zealand, UK & Ireland, Australia, the Netherlands and Germany, and the lowest levels among those from China, Vietnam, India and Malaysia. (See Figure 7.4 and Table 7.6.) As noted earlier with respect to the Pap test, wide differences were also observed between countries in the same region with respect to the proportion of women having a breast examination. The differences follow the same pattern as observed with the Pap test, with the exception that women from China are not markedly different from those from other north-east Asia.

Figure 7.5 shows that the age-standardised proportions of women having a breast examination and a Pap test age quite similar. In other words, in relation to all women in Australia, birthplaces with a high proportion having one test also tended to have a high proportion having the other. Women from the United States had the highest proportions having each type of test, while those from China and Vietnam had the lowest.

Heard of or had a mammogram

As observed in the other questions about women's health, women aged 18–24 years behaved differently from those in the remainder of the age range. Thus it was found that relatively small proportions of these women had ever heard of mammogram (71% of Australian-born women and 58% of overseas-born women). The proportions increased at ages 25–34 years and remained relatively steady at the subsequent ages at around 85–90% among the Australian-born and at around 70–75% among the overseas-born.

Despite the relatively large gap between Australian-born and overseas-born women with regard to knowledge of the mammogram, the difference between the proportions

of each who had actually had a mammogram was quite small. For example, at ages 25–34 years the proportions are 9% and 10%, at ages 35–44 years they are 22% and 21%, at ages 45–54 years they are 35% and 29%, and at ages 55–64 years they are 28% for both. Note that the proportion who have had a mammogram varies with age, increasing steeply from ages 25–34 year to 45–54 years (see Table 7.4).

The age-standardised ratios of the proportions who have had a mammogram are high for women from Poland (127 compared with 100 for total Australia), Netherlands (114), UK & Ireland (113), and Germany (104). At the other end of the scale there were very low proportions of women having a mammogram among those from South-East Asia (47), north-east Asia (69), Italy (72), Greece (82) and Malta (85). Note again that there are wide differences between women from various countries in the same region (see Table 7.6).

Relationship between the variables

Some analysis was also done with regard to the relationship between having a breast examination, having a mammogram, and the mortality from breast cancer for the various birthplace populations. There was relatively little relationship between the age-standardised ratio for a breast examination and the age-standardised ratio for a mammogram. Certainly women from the United States had high rates for both a breast examination and a mammogram, and women from Vietnam had low rates for both, but it was possible for some populations to have a relatively high incidence of mammograms but a low proportion having a breast examination, or vice versa.

A closer relationship occurred between the age-standardised ratios relating to the proportion having a breast examination (ages 18–64 years during 1989–90) and the standardised mortality ratios from breast cancer (ages 15–74 years during 1987–89), as shown in Figure 7.6. To some extent the values scatter roughly about a straight line drawn from United States (with the highest rates for both), and Vietnam and China (with the lowest rates for both). This suggests that the relative proportion undergoing a breast examination is fairly consistent with the relative level of mortality from breast cancer.

Relatively little data are available to test the relationship between the proportion having the Pap test and mortality from cancer of the genitourinary system, but the few available figures also suggest some association (see Figure 7.7). In this case the Pap test data refer to ages 18–64 years in 1989–90, while the mortality data refer to ages 15–74 years in 1980–82 (Young 1986).

With respect to the three tests, Pap test, breast examination and mammogram, it is unfortunate that the data do not allow us to distinguish between women who have undergone these procedures because they had sought advice on such a problem, and those who had been given these tests simply as a checkup. Among the latter, it would also be useful to be able to distinguish those instances where the woman had sought a checkup herself, and those where the doctor or health worker had initiated the checkup. It is likely that cultural differences among women and the possible reluctance of doctors to initiate such tests with women from traditional societies may play a part in the frequency of such checkups.

Hysterectomy

The 1989–90 National Health Survey collected data only on hysterectomies and not tubal ligations, even though the latter are more common (Santow 1991). The 1989–90 Survey shows that proportions of women who have had a hysterectomy increase steeply with age, and so any aggregate rates are potentially misleading. Among Australian-born women the proportions over the five age groups from 18–24 years to 55–64 years are 1, 4, 14, 26, and 26%, while for overseas-born women the proportions are 1, 4, 11, 24, and 18% (see Table 7.4). The data available are most reliable at ages 45–54 and 55–64 years. At these ages women from UK & Ireland, Western Europe and New Zealand have experience similar to that of Australian-born women, but the proportions are lower among women from southern Europe, north-east Europe, and from each of the Asian regions.

Data collected in the 1977 Melbourne Survey showed that 27% of women aged 24–37 years had become sterilised (which included both hysterectomy and tubal ligation) (Young & Ware 1979). More recent data relating to 1986 shows that at ages 45–49 years 18% of women had had a hysterectomy, 33% had had a tubal ligation, and 10% of husbands had had a vasectomy. At ages 50–54 years the corresponding figures were: 23%, 22% and 6% (Santow 1991). The proportion of older women in other countries undergoing sterilising operations has increased too, suggesting changes in medical views of the desirability of this surgery (*Population Reports* 1990).

The 1989–90 National Health Survey does not explore the extent to which a hysterectomy was performed for medical reasons, to 'treat' menopause, or as a form of birth control. In the earlier 1971 Melbourne Family Survey two-thirds of women aged 47–51 years and three-quarters of those aged 52–56 years reported that their sterilisation had been for medical reasons, and the proportions decrease to 59% at ages 42–46 years, and 34% at ages 37–41 years, but these figures relate to both tubal ligations and hysterectomies (Young & Ware 1979). Nevertheless, even though the operation may have been initiated for medical reasons, it represents a major method of prevention of pregnancies in middle age.

Age-standardised ratios show the highest incidence of hysterectomy among women from Malta (124), Netherlands (116), UK & Ireland (107), and Australia (106). The lowest rates occur among women from north-east Asia (46), South-East Asia (53), Southern Asia (71), Italy (71) and Yugoslavia (73). Table 7.6 also shows the wide diversity between different birthplace groups from the same geographic region. For example, the age-standardised ratio for the proportion of women from Malta (124) is much higher than for women from Greece (78), Italy (71) and Yugoslavia (73). It would be interesting to know whether this variation between birthplace groups reflects medical need or cultural differences in views of feminity and the willingness or resistance to part with one's reproductive function.

Female sterilisation, at least with regard to tubal ligations, is relatively common in South America and Asia, but not in Africa or the Middle East. However, there is heterogeneity even within these regions, with high proportion of sterilisations among women in China (27%), Korea (37%), Sri Lanka (20%) and Thailand (22%), but low proportions among women in Bangladesh (8%) and Indonesia (3%). The proportions are even lower among women in the Middle East, including Turkey (2%) and Egypt (2%) (*Population Reports* 1990, p. 6). The general observation is that female sterilisation is less common in Muslim countries. However, despite this, there is a moderate level of hysterectomy among women from the Middle East in Australia.

Contraception

The proportion of women taking the oral contraceptive pill also varies markedly by age, and so, again, aggregate rates could be misleading. For example, for the four age groups 18–24, 25–34, 35–44 and 45–50 years, the proportions are 50, 37, 14 and 3% among the Australian-born and 39, 32, 10, and 2% among the overseas-born (see Table 7.4). Obviously dependence on the pill for preventing pregnancy is greatest among young adults and women at the peak child-bearing years, but its use drops dramatically among women in their late thirties.

Data from the 1977 Melbourne Family Survey show that 74% of recently married women aged 18–22 years were using the contraceptive pill, 65% of those aged 23–27 years, and 39% of those aged 28–37 years (Young & Ware 1979). An analysis of data for cohorts from the 1971 and 1977 Surveys, suggested that among women born since 1940, contraceptive pill use peaked in the early twenties, thereafter declining fairly rapidly. The 1971 Survey data also suggested that the proportion of women who had ever used the contraceptive pill was considerably lower among those from Southern Europe than for Australia and other birthplace populations, and within the Southern European group it was lowest for those with a low level of education.

In the 1989–90 National Health Survey the main usable age-specific results by birthplace refer to the age group 35–44 years. In this age group birthplaces with 30% or higher use include: Australia, UK & Ireland, Italy, Germany, Netherlands, and New Zealand. Virtually all other birthplaces for which data are available have proportions within the 23–27% range, including women from Greece, Yugoslavia, Middle East & North Africa, Vietnam and India. A lower proportion occurs for women from north-east Asia (20%). Although these last proportions are quite low, they are considerably higher than occurs in the corresponding source countries. For example, only 1–2% of women in Vietnam (*Asia-Pacific Population Journal* 1989) and 5–6% of women in China (*Population Reports* 1988) are taking the contraceptive pill.

From the 1989–90 National Health Survey age-standardised ratios show that the highest use of the contraceptive pill occurs among women born in Australia (105), New Zealand (104), and the UK & Ireland (100). After that, the age-standardised ratios drop markedly to 78 for those born in Malaysia, with 77 for women from Yugoslavia, and 73 for those from Germany. Next there is another group with age-standardised ratios in the sixties: Italy, Netherlands, and Greece. The lowest rates occur among women born in north-east Asia (42) southern Asia (48) and Vietnam (39) (see Table 7.6).

Again there are differences between birthplace populations relating to a similar geographic region. For example, the age-standardised ratios are higher for women from Yugoslavia than for those from Greece or Italy, and the ratios are higher for German women than for Dutch women. Vietnamese women have lower ratios than Malaysian women, who also have higher ratios than other women from South-East Asia.

The proportions of women with an intrauterine device (IUD) are very small (less than 5% in each age group among the Australian-born and the overseas-born) and the numbers are too unreliable to warrant an analysis by birthplace. These rates of use appear to be about one-half the rates observed in the 1971 Melbourne Survey, suggesting that decreasing proportions of women are using this method.

One of the categories in the section on chronic diseases refers to chronic diseases of the genitourinary system. These include kidney diseases, other diseases of the urinary tract, disorders of menstruation, other diseases of the genital system and complications of pregnancy, childbirth and the puerperium. For many birthplaces, the numbers

experiencing such chronic diseases were too small even for an age-standardised ratio. However, the data available suggest a relatively high prevalence of chronic disease of the genitourinary system among women from UK & Ireland (135), moderate levels for women born in Australia (100) and Italy (107), and low levels for women born in New Zealand (88).

7.4 Access to hospitals and doctors and other services

Admissions to hospital

The 1989–90 National Health Survey included a question about whether the person had been admitted to hospital during the previous 12 months, and so this section analyses the difference in the proportions by birthplace, with some reference to English language proficiency and duration of residence. A more detailed analysis of hospital admissions, including type of condition, can be found in Chapter 6.

As would be expected, the proportions who had been admitted to hospital during the previous 12 months vary with age, and also vary between males and females. Among men the lowest proportions occur at ages 15–34 and 35–44 years, increasing at ages 55–74 years and again at ages 75 years or more. Among women the rates are highest at ages 15–34 years, then are lowest at ages 35–54 and 55–74 years, increasing at ages 75 years or more. The higher proportions for women than for men at ages 15–34 and 35–54 years are affected by child-bearing, but at the older ages the hospital admission levels for men are slightly higher.

With regard to differences according to country of birth, the proportions of Australian-born men admitted to hospital are slightly higher than for overseas-born men in the first three age groups, but the proportions are similar at the oldest ages, 75 years or more. The age-specific admission rates for Australian-born and overseas-born women are very similar at most ages, although the rates are higher for Australian-born women at ages 75 years or more (see Table 7.8).

Among men, age-standardised ratios of hospital admission during the past 12 months are highest for Australian-born men (107), followed by those from Yugoslavia (100) and from UK & Ireland (92). The lowest ratios occur among those from Greece (41), southern Asia (63), South-East Asia (68), and north-east Asia (70). The age-standardised ratios vary considerably between different populations from the same geographic region, for example, there are wide differences between men from Italy (89), Greece (41), and Yugoslavia (100), and between men from Germany (73) and the Netherlands (85) (see Table 7.9).

Among women, age-standardised ratios of hospital admission during the past 12 months are highest for the Netherlands (126), Malta (120), Middle East & North Africa (120), New Zealand (108) and Italy (108). The lowest ratios occur among those from Poland (55), Yugoslavia (68), South-East Asia (72), and north-east Asia (76) but not southern Asia (93). The prevalence of hospital admissions for women, are, of course, affected by admissions for child-bearing, and this, to some extent, explains the relatively high ratios for women from Middle East & North Africa, and also the higher rates for Vietnamese women (94) compared with other women from South-East Asia (72) (see also Chapter 6).

An analysis was also carried out to determine whether the level of hospital admissions varied according to English language proficiency. The measure of English language ability used was the language of the interview. In Table 7.10 figures are given for interviews conducted fully in English, and for the combined group of those where the

interview was conducted partly in English, fully in a language other than English, or by proxy because of a language difficulty. The numbers were too small to be able to separate these three groups.

Table 7.10 suggests that men with poor English language had higher age-specific rates of hospital admission rates than others. Among those who were proficient in English, the rates are generally highest among the Australian-born. A lower level of hospital admission could indicate either better health or poorer access to hospital services. On the other hand a higher incidence could indicate either poorer health (except of course in relation to different levels of fertility among women at the child-bearing ages), or, cultural or language factors. For example, health personnel might consider people with poor English language ability to be less able to follow complicated medical instructions and therefore they might be more ready to admit them to hospital.

Hospital admissions were also examined in relation to duration of residence in Australia. Because of the small numbers it was only possible to look at this in terms of those who arrived before 1980, or since 1980, and for all overseas countries combined. The results in Table 7.11 suggest that age-specific hospital admission rates of recent arrivals are generally lower than among residents who arrived earlier. Moreover, among those who had arrived before 1980, hospital admission rates among those with an English-speaking background were generally slightly higher than for all such immigrants. The first of these results is consistent with the recent selection for health status of new arrivals, while the second result is consistent with the finding that the mortality of immigrants in Australia with an English-speaking background is generally higher than that for immigrants from other source countries.

Visits to a doctor or specialist

The proportions who visited a doctor or specialist during the two weeks prior to the interview are quite similar at ages 15–34 and 35–54 years, but then increase at ages 55–74 and again at ages 75 years or more. This pattern occurs for both males and females, but a major difference is the higher rate observed for women compared with men at ages 15–34 and 35–54 years, at least partly because of pregnancy supervision and contraceptive management (Australian Bureau of Statistics 1991b). As Table 7.8 shows, the age–sex-specific proportions vary little between the Australian-born and the overseas-born population, with the values for the Australian-born generally being slightly lower. However, an indication of the heterogeneity of the overseas-born population is provided by the second set of figures in the Table, which show that the overseas-born were more likely to have not seen a doctor for the previous 12 months compared with the Australian-born, particularly among males.

Among men, age-standardised ratios show that the highest proportions visiting a doctor during the previous two weeks occurs among men from Malta (194), Vietnam (189), Middle East & North Africa (140) and Greece (135), New Zealand (115) and Yugoslavia (113) with relatively low ratios among those from Germany (92), United States (91), Netherlands (78), Poland (70), Southern Asia (87) and north-east Asia (71) (see Table 7.9). Again, the variation between those with different birthplaces within a given region are of note. For example, there are wide differences between men from Italy (102), Greece (135), Malta (194) and Yugoslavia (113). There are also differences between Germany (92) and the Netherlands (78), and between Vietnam (189) and other South-East Asia (96).

As with hospital admissions, the proportions of women consulting a doctor during the previous two weeks is related to the different levels of fertility between the various

birthplace groups. Therefore, it is not surprising to find that women from Middle East & North Africa have one of the highest age-standardised ratios (138), but, on the other hand, Vietnamese women have a relatively moderate ratio (99). High age-standardised ratios also occur among women from Greece (134), and Yugoslavia (112). Low age-standardised ratios occur among those from the Netherlands (87), India (86), Poland (86), Malaysia (70), and China (47). Again, as for men, there is wide variation in age-standardised ratios between country groups from the same region, further highlighting the possible danger of using rates for regions instead of countries of birth.

Among those with an adequate level of English language, Table 7.12 shows the proportions visiting a doctor or specialist are generally lowest among the Australian-born, and are usually highest among those from the new source countries (indicated as 'Other' in Table 7.12) at ages 35–54 and 55–74 years among men and at ages 15–34, and 55–74, and 75 or more years among women. Table 7.12 also shows that the proportions visting a doctor or specialist among those with a poor knowledge of English was low at ages 15–34 years compared with those with a good knowledge of English (3.5% compared with 12.9% among men, and 15.4% compared with 22.6% among women). However, the situation is reversed at ages 35–74 years, and higher proportions of people without English language visited a doctor or specialist compared with those with good English. These differences were particularly marked among men.

The proportions visiting a doctor or specialist during the two weeks prior to the interview, according to duration of residence, are presented in Table 7.13. The age-specific rates show no consistent difference between those who arrived since 1980 and those who had lived in Australia for a longer period. Similarly, among those who arrived in Australia before 1980, the differences between those with an English-speaking background and the total overseas-born are small in relation to age-specific proportions who visited a doctor or specialist during the previous two weeks. These results differ from those relating to hospital admissions.

It is of interest to compare the proportion who consulted a doctor in the past two weeks with the overall level of mortality of that birthplace population, and this information is presented in Figure 7.8. The data suggest a relatively high level of doctor consultation among some birthplace groups in terms of their relative mortality, notably among men from Vietnam, followed by those from Greece, Malta and Middle East & North Africa, and particularly among women from Greece, followed by those from Vietnam, Italy, Yugoslavia and Middle East & North Africa. Among both sexes, those from Greece, Vietnam and the Middle East appear the have a relatively high use of doctors in relation to their low levels of mortality. In contrast, a relatively low use of doctors in relation to their level of mortality occurs among Polish, Dutch and Chinese men and among Chinese, Polish and New Zealand-born women.

The variation in the proportion of those visiting a doctor according to birthplace, and, indeed, according to sex, raises questions about the distribution of chronic and minor ailments and about differences in treatment-seeking behaviour and the perceived role of doctors among the various birthplace groups.

Outpatients

The proportions using the hospital outpatients service were very low, but showed marginally higher age-specific rates among the overseas-born in several age groups compared with the Australian-born (see Table 7.8).

Specialist

The proportions seeing a specialist during the two weeks prior to the inteview were quite small, and showed relatively little difference between Australian-born and overseas-born. The main observation was that the proportions were higher for women than for men at ages 15–34 and 35–54 years (see Table 7.8).

Chiropractor

The age-specific proportions visiting a chiropractor were higher for the Australian-born than for the overseas-born. This is consistent with the later observation in this chapter that the age-standardised proportions reporting a musculoskeletal condition are higher for the Australian-born than for the overseas-born (Tables 7.22 and 7.23). The proportions were also higher for men than for women, and highest at ages 35–54 years (see Table 7.8).

Chemist

There was little consistent difference between the age-specific proportions of Australian-born and overseas-born seeking advice from chemists. The main observation from these figures is that women are more likely to seek such advice than men (see Table 7.8).

7.5 Days away from work

There is relatively little difference between the age-specific rates of days away from work for Australian-born and overseas-born men, and little consistency in the direction of the differences. Both have the largest rates at ages 15–24 years and the lowest rates at ages 35–44 and 45–54 years. Because there is little variation by age, the overall rates are examined in Table 7.14. Further analysis shows that the highest incidence of days away from work occurred among those from South-East Asia and south Asia, while those from north-east Asia, western Europe and north-east Europe were least likely to stay away from work. The proportions for the remaining countries: Australia, UK & Ireland, southern Europe, United States and New Zealand were all similar.

Unfortunately, for the purposes of analysis, the number of those who had days away from work are very small, and so it is not feasible to determine more precisely the underlying reasons for the differences. Susceptibility to illness or accidents may be influenced by the type of work being done (e.g. manual or non-manual). The type of employer may also affect behaviour, in relation to factors such as the availability of sick leave, or whether working for relatives or within the ethnic group.

7.6 Accidents

Accident data from the health survey relate only to those accidents resulting in an illness or injury which was current at the time of the survey, and therefore may not be representative of all accidents occurring. Figures on accidents were quite small, and so can only provide a limited picture of the variation between birthplace groups. As would be expected, among men, the incidence of accidents varies by age, with a peak at ages 15–34 years, followed by ages 5–14 years. There is less variation by age among women, and for them, the highest accident rates occur at ages 5–14 years and at ages 75 years or more. Age-specific accident rates are slightly higher among the Australian-born than the overseas-born, particularly among men at the young adult ages (see Table 7.15). Further analysis shows that accident rates are high for men from Italy at ages 35–54 years and for men and women from New Zealand at ages 15–34 years.

Although accident numbers are too small to discuss in depth here, they would be an interesting subject to explore in the future, for example, with regard to cultural attitudes to caution. Another topic of research would be cultural differences in the domestic and local environment, and the characteristics of workplace accidents.

7.7 Medication

One set of questions in the survey asked about the types of medication taken, and their frequency and duration. Pain relievers were the most commonly reported medication, followed by vitamin and mineral supplements, and skin ointments (Australian Bureau of Statistics 1991b). Three types of medication were chosen for this analysis: sleeping medication, pain relievers, and tranquillisers or sedatives. The first was selected because of its relatively widespread use, and the others because their possible association with a poor lifestyle. A summary of the proportions of Australian-born and overseas-born men and women taking each of these during the previous two weeks is given in Table 7.16. The proportion taking sleeping medication during the previous two weeks increases steeply after middle age, is considerably higher for women than for men, and is slightly higher for the Australian-born compared with the overseas-born. Very small proportions are taking tranquillisers, with the proportion only slightly higher for women than for men, and virtually no difference between Australian-born and overseas-born.

The proportion taking pain relievers during the previous two weeks varies relatively little by age. Again, the proportion of women taking such medication is considerably higher than for men. Australian-born men and women are slightly more likely to take pain relievers than overseas-born men and women. Although there is little variation by age in the proportions taking pain relievers during the previous two weeks, there is a steep increase with age in the proportion of those taking pain relievers prescribed by a doctor, and in the proportion who were taking pain relievers more than once per week. The differences between Australian-born and overseas-born with respect to these two variables is small, the main observation being that overseas-born men and women were generally more likely to be taking prescribed pain relievers compared with the Australian-born, and overseas-born women were more likely to be taking pain relievers more than once per week.

The results of the analysis of the age-standardised ratios of the proportions taking the three types of medication are discussed in the following paragraphs.

Sleeping medication

The proportion of persons taking sleeping medication during the previous two weeks is quite small, and so age-standardised ratios can be calculated only for some of the birthplaces. The main observation is that significantly high proportions of Greek men and women took such medication (186 and 160). Other birthplace groups with high, but not significantly high, levels of sleeping medication are women from Middle East & North Africa (113), Netherlands (130), and Germany (112). The low levels observed for Italian men and women are in contrast to the high levels observed for Greek men and women (see Tables 7.17 and 7.18).

Tranquillisers or sedatives

There are even lower proportions of persons taking tranquillisers than sleeping medication, and so usable data exist only for a few of the selected countries. The main observations are the significantly high age-standardised ratio of Greek and Italian men

and women taking tranquillisers, while there are low rates for men and women born in UK & Ireland (see Tables 7.17 and 7.18).

Pain relievers

With about one-third of all men and about one-half of all women taking pain relievers during the previous two weeks, the numbers are sufficiently high to assess the experience of each of the selected birthplace populations. Moderate to high age-standardised ratios occur with respect to men and women from Greece (104 and 112), Germany (109 and 101) and for men and women born in Australia (103 and 103), and in the United States (102 and 106). There are higher ratios for men from Middle East & North Africa (111) and Malta (110), and in this respect they differ from the relative ranks of the women from those countries. A very low relative level of use of pain relievers occurs among men and women from China and Malaysia. The low relative levels observed among Vietnamese women are not observed to the same extent among Vietnamese men, nor are the low relative levels observed among New Zealand-born men observed among New Zealand-born women. These data also show some variation between the experience of different birthplace groups from the same region (see Tables 7.17 and 7.18).

Within the 35–54 year age group there are differences between the birthplace groups in the proportion taking pain relievers prescribed by a doctor and the proportion taking pain relievers more than once per week, as indicated in Figure 7.9. The main observations are the higher proportions of women than men in each category. In addition, men from Malta, Yugoslavia, Greece, Italy and Middle East & North Africa are both more likely to be taking prescribed pain relievers and to be taking pain relievers more than once per week. Among women aged 35–54 years the corresponding birthplaces are the same, except for the absence of Malta. Therefore, in terms of medically prescribed pain relievers, and the frequency with which these are taken, both men and women from Greece, Middle East & North Africa, Yugoslavia and Italy rank highest.

The high levels of use of these types of medication by Mediterranean people raises questions about whether they have a different threshold of acceptable pain, or is it the result of their poor lifestyle or unspecified chronic disease?

7.8 Lifestyle

The next section deals with variations in selected lifestyle factors which have an association with chronic diseases and which have been the subject of health education in recent years. The lifestyle factors chosen relate to: exercise, weight, alcohol consumption and smoking.

In the discussion, comparisons are made with the findings from the National Heart Foundation's 1989 Risk Factor Prevalence survey. While the data from the Risk Prevalance Study may possibly be more reliable with regard to some variables because of a greater precision of measurement, the Australian Bureau of Statistics data may be more reliable because of the larger sample, the nature of the selection of the sample, and the follow-up procedures. The National Heart Foundation sample consisted of about 9,000 persons aged 20–69 years, was derived from the Electoral Roll, and asked one person from each selected address to report for testing. There was no follow-up, and the non-response rate was around 25 per cent. In the Australian Bureau of Statistics 1989–90 National Health Survey around 40,000 persons aged 15–74 years were interviewed from a multi-stage area sample, including country areas, with only low non-response.

Exercise

Three questions were asked about exercise during the previous two weeks: the number of times and duration spent (a) walking for exercise; (b) exercising moderately; and (c) exercising vigorously. Moderate exercise is defined by the Australian Bureau of Statistics as 'exercise or other activities (undertaken for recreation, sport or fitness) that caused a moderate increase in the heart rate or breathing'. Vigorous exercise differed in that it would have also caused the respondent to 'perspire and/or resulted in a large increase in the respondent's heart rate or breathing' (Australian Bureau of Statistics 1991a, p. 34). The proportions who walked for exercise varied relatively little by age and showed little difference between the Australian-born and the overseas-born. Women at the young and middle adult years were more likely to walk for exercise than men, but men were more likely to exercise moderately and to exercise vigorously compared with women. The proportion exercising moderately decreased with each older age and the proportion exercising vigorously decreased even faster. The data also suggest that the Australian-born were more likely to participate in exercise compared with the overseas-born (see Table 7.19).

The proportion who exercised moderately has been chosen for an assessment of age-specific rates and for the analysis of age-standardised ratios. However, the Australian Bureau of Statistics has also applied an Exercise Level Index, which includes all the information covered in the questions about exercise, and it would be useful to repeat the analysis in the future using this variable. Among men aged 35–54 years, the main finding is that those born in the United States and Malaysia were more likely to undertake moderate exercise (more than 50% participating in moderate exercise), followed by those born in the Netherlands, UK & Ireland, Germany, Australia and New Zealand (with more than 30% participating in moderate exercise). Men who were least likely to engage in moderate exercise were from Malta, Yugoslavia, Italy, Greece, and China (with less than 20% engaging in moderate exercise).

Among women aged 35–54 years, those from United States, UK & Ireland, Australia, India, New Zealand and Poland were more likely to undertake moderate exercise (with more than 25% engaging in such exercise). At the other extreme, those least likely to undertake any physical activity were women from: Malta, Yugoslavia, Greece, Italy and Middle East & North Africa (with 15% or less undertaking moderate exercise).

Among men, age-standardised ratios of the proportions who undertook moderate exercise during the previous two weeks are highest for those from the United States (154), Malaysia (133), Germany (113) and New Zealand (110). Those least likely to participate in moderate exercise came from Vietnam (77), China (72), Middle East and North Africa (61), Greece (56), Poland (55), Italy (45), Yugoslavia (45) and Malta (34) (see Table 7.17).

Differences between countries of birth within a given region are less apparent with regard to exercise than for some of the other characteristics. Thus, men from each of the southern European countries have very low levels of exercise, while those from Germany and the Netherlands have moderately high levels. However, the Vietnamese differ from the Malaysians, and are more similar to the Chinese with regard to level of exercise.

Among women, as for men, those from the United States (147) and Malaysia (108) have relatively high age-standardised levels of moderate exercise. Relatively high levels also occur among those from UK & Ireland (111), and among the Australian-born (104) and New Zealanders (102). Unlike men from Germany, women from Germany have relatively low levels of exercise (80). However, the reverse occurs among men and women

from Poland. Other birthplace groups with low levels of exercise are Vietnam (61), Middle East & North Africa (53), Italy (44), Yugoslavia (41), Greece (40) and Malta (40) (see Table 7.18).

As for men, there is some uniformity about the level of exercise of women from countries within a given region. In particular, women from each of the Southern European countries have low levels of exercise. Among both sexes, there are low levels of exercise among people from these countries and from Middle East & North Africa, Vietnam and China.

These findings relating to exercise show reasonable agreement with the findings from the 1989 Risk Factor Prevalence Survey conducted by the National Heart Foundation (see Tables 7.20 and 7.21 and Chapter 8). For example, both surveys show the low level of exercise among both men and women from Southern Europe and Middle East, and also among Polish men. A low level of exercise among men and women from Southern Europe was also found in the earlier 1983 Risk Factor Prevalence Survey. Although the figures from the 1989 Risk Factor Prevalence Survey suggest a low level of exercise among men and women from Asia, the Australian Bureau of Statistics data suggest that immigrants from at least one of the Asian countries, Malaysia, had high levels of moderate exercise. The two sets of data also disagree with regard to the level of exercise among New Zealand-born men and women.

Overweight and obesity

Quetelet body mass index scores were derived from self-reported height and weight using the formula of weight (in kilograms) divided by the square of the height (in metres). Persons were then classified to one of the four groups: Underweight, Acceptable, Overweight and Obese, according to their scores. These groups are based on recommendations of the National Health and Medical Research Council, as applied in the analysis of data from the National Heart Foundation's Risk Factor Prevalence Study 1989 (Australian Bureau of Statistics 1991a). The distribution between underweight, acceptable, overweight and obese varies by age, and varies between men and women. Overall, both men and women are more likely to be underweight at the extreme ages, 15–34 and 75 years or more, and more likely to be overweight at the middle age groups, 35–54 and 55–74 years. Men are more likely to be overweight than women (see Table 7.19).

Among men aged 35–54 years, those from Malaysia, Vietnam, India, United States and China were least likely to be overweight (less than 30%), while those from Malta, Italy, Yugoslavia, Poland, Middle East & North Africa, and New Zealand were most likely to be overweight (with more than 45%). Among women aged 35–54 years, those from Malaysia, Vietnam, China, New Zealand, India and the Netherlands were least likely to be overweight (less than 25%), while those most likely to be overweight were those from Yugoslavia, Middle East and North Africa, Greece, Italy and Poland (more than 35%).

Age-standardised ratios have been calculated to assess the differences between the various birthplace groups. Men from Poland (131), Greece (129), Italy (128), Middle East & North Africa (122), Malta (121) and Yugoslavia (120) had the highest age-standardised ratios with regard to the proportions overweight or obese, while those from the United States (79), India (79), China (58), and Malaysia (43) had the lowest. There is some uniformity within the southern European regional group with regard to being overweight. Uniformity also exists in weight levels for those from the Netherlands and Germany (Table 7.17).

Age-standardised ratios for women also show high proportions who are overweight or obese among these same six birthplace groups, Yugoslavia, Greece, Middle East & North Africa, Malta, Italy, and Poland, but with the addition of Germany. As for men, the lowest proportions who are overweight or obese occur among women from China, India and Malaysia (data are not available for women from Vietnam or the United States). The proportions among Australian-born women, New Zealand-born women, and women from UK & Ireland are quite similar. This is in contrast to men, where there are relatively higher proportions of New Zealand-born men who are overweight, possibly because of the slightly higher proportion of Maoris among male immigrant New Zealanders (Lowe 1990) (see Table 7.18).

Tables 7.20 and 7.21 compare these findings with those from the National Heart Foundation 1989 Risk Factor Prevalence Survey (see Chapter 8). There is close agreement between the two sets of results. Both show high proportions who are overweight or obese among those from southern Europe (both males and females), north-east Europe etc. (males), and Middle East & North Africa (females), although only the Australian Bureau of Statistics data show a high proportion overweight or obese among men from Middle East & North Africa. Both sets of data also show low proportions overweight or obese among men and women from Asia. Some contradictory results occur, with the Australian Bureau of Statistics data indicating high proportions of New Zealand-born men overweight (compared with low proportions from the National Heart Foundation data), and low proportions of UK-born immigrants overweight compared with moderate levels from the National Heart Foundation data.

The relationship between being overweight and the participation in moderate exercise is of interest. The six birthplaces with the lowest ratios for exercise are also the six countries with the highest proportions who are overweight or obese. Figure 7.10 shows that there are low levels of exercise and high proportions overweight among men from Malta, Italy, Poland, Greece, Yugoslavia, and Middle East & North Africa, and among women from all of these countries except Poland. Another group of countries is clustered near the middle of the graph, with moderate levels of exercise and moderate proportions who are overweight: Australia, UK & Ireland, New Zealand, Germany, Netherlands and India (males). There is also another group with high levels of exercise and low proportions who are overweight: USA (males) and Malaysia. Men and women from China are atypical in having a low proportion who are overweight, and a low level of exercise (see Tables 7.17 and 7.18, and Figure 7.10.)

It is well known that perceptions of ideal body shape vary with both birthplace, and, to some extent, with generation. While this section has concentrated on overweight and obesity, there is also concern at the growing number of young women who are underweight, often as a result of inappropriate concepts of ideal body image.

Alcohol consumption

Summary data relating to alcohol consumption are given in Table 7.19. Each person's health risk level from alcohol intake was derived from their average daily consumption of alcohol over the previous seven days. The National Health and Medical Research Council convention was used to assign these values to low, medium and high risk. These categories are defined as: less than 50 mLs per day, 50–75, and more than 75 mL per day among men, and less than 25, 25–50, and more than 50 mL per day among women (Australian Bureau of Statistics 1991a). The proportion of men with medium or high alcohol risk is greatest at ages 18–34 and 35–54 years and then decreases. The proportion of women in this category is considerably smaller, but these proportions

also show a decrease beyond middle age. The figures in Table 7.19 also show that the Australian-born have a higher alcohol risk level than the overseas-born.

Among men aged 35–54 years, those from Vietnam, Malaysia, Middle East & North Africa, and India had the lowest levels of alcohol consumption (with a health risk of less than 5%). The highest proportions with medium or high risk were men from New Zealand (22.5%), followed by the Australian-born (17.2%), UK & Ireland (15.8%), Germany (14.6%) and Yugoslavia (12.7%).

As would be expected, the health risk level from alcohol consumption among women aged 34–54 years was very much lower than for men, with women from Vietnam, Malaysia, Poland, Malta and Greece having zero risk. Those experiencing a relatively high health risk are women from New Zealand (12.0%), UK & Ireland (10.7%), Germany (9.7%) and Australia (8.7%). In each case these proportions were lower than for men in the corresponding age groups.

In terms of age-standardised ratios, New Zealand-born and Australian-born men have the highest levels of medium or high health risk (ratios of 143 and 111, respectively). Moderate levels occur among men from UK & Ireland (99), and Germany (96), while low ratios occur among those from north-east Europe (83), Yugoslavia (76) and Italy (65). Very low ratios occur among those from Greece, Malta, Middle East & North Africa and Asia (see Table 7.17).

The proportion of women who were at medium or high health risk is very small in comparison with men, so the age-standardised analysis shown in Table 7.18 relates merely to the proportions who drank alcohol during the previous week. The highest age-standardised ratios occur among women from the United States (125), New Zealand (120), UK & Ireland (118), the Netherlands (105) and Australia (104). In contrast, there are low rates among women from each of the Southern European countries, north-east Europe, Middle East, and Asia (see Table 7.18).

Age-standardised ratios of the proportions who consumed alcohol during the previous week show general consistency between the relative experience of men and women with the same birthplace. Thus, one finds moderate to high relative ratios for men and women from New Zealand (108 and 120), UK & Ireland (107 and 118), Germany (103 and 118), the Netherlands (102 and 105) and the Australian-born (102 and 104). Consistently low age-standardised ratios relative to all men and relative to all women occur for men and women from Vietnam (54 and 22), Malaysia (58 and 43), China (59 and 56), Middle East & North Africa (64 and 43), Malta (72 and 58), India (85 and 58) and Greece (88 and 48).

In terms of consuming alcohol during the previous week, there is consistency between birthplaces within regions. Thus, the age-standardised ratios are similar for each of the four countries in Southern Europe, for Germany and the Netherlands, and for Malaysia, Vietnam, and China. The 1983 Risk Factor Prevalence Survey also found low levels of alcohol consumption among men and women from southern Europe, and relatively high levels for those from the combined group of New Zealand and North America (Lee et al. 1987).

Smoking

From the summary Table 7.19, the proportion who were current smokers is highest at the young and middle adult ages, and then decreases at the subsequent ages. The proportions are higher for men than for women, and are also higher among overseas-born men than Australian-born men. Among men the proportion of those who have ever

smoked (current smokers plus ex-smokers) is highest at the late adult and oldest ages, and again the proportions are higher for overseas-born males. In contrast, among women there is less difference between Australian-born and overseas-born women. The proportion of women who have ever smoked is highest at the youngest ages, and then declines at each successive age, indicating a relatively recent increased adoption of smoking among women.

Age-standardised ratios of the proportions of men currently smoking indicate the highest levels among Poles (152), Greeks (138), men from the Middle East etc. (130), Yugoslavs (120), Vietnamese (118), and Italians (113). The lowest proportions occur among those from Malaysia (51), India (82), and China (89) (see Table 7.17). Age-standardised ratios for women indicate that the highest proportion of current smokers occurs among those from New Zealand (140), UK & Ireland (122), Germany (119), Poland (117), followed by those from Middle East & North Africa (107), the Netherlands (103) and the Australian-born (103). The lowest proportion of current smokers occurs among those from the United States, India, Italy and Greece (see Table 7.18).

For some countries of birth there is a marked contrast between the age-standardised ratios of men and women relative to all men and all women, for example, the relatively high age-standardised ratios of Greek, Yugoslav and Italian men compared with the relatively low age-standardised ratios for women from those countries. On the other hand, there is evidence of high age-standardised ratios among both men and women from Poland, Middle East & North Africa and from New Zealand, relative to all men and to all women.

The analysis of smoking differentials can be extended by further separation into the categories of heavy current smoker, light current smoker, and ex-smoker, where 'heavy' equals 11 or more cigarettes per day. This has been done for males in Figure 7.11. Greek men have high proportions of smokers and of heavy smokers, while Yugoslav men have a relatively low proportion of those who have ever smoked but a high proportion of heavy smokers. Australian-born, British and German men have relatively low proportions of heavy smokers. Asian men have a low proportion of heavy smokers and a low proportion of those who ever smoked, but a relatively high proportion of current light smokers.

A comparison of the Australian Bureau of Statistics National Health Survey figures and those from the National Heart Foundation's 1989 Risk Factor Prevalence Survey relating to smoking are given in Tables 7.20 and 7.21. Both sets of data indicate high proportions of current smokers among men from southern Europe and the Middle East, and moderate levels among those from western Europe. Similarly, both sets of data show low levels of current smokers among women from southern Europe and from Asia, moderate levels among women from north-east Europe, and slightly higher levels among women from western Europe. However, the National Heart Foundation data differ in that they indicate low levels of smoking among men from New Zealand and north-east Europe, high levels of smoking among men from Asia, and lower levels of smoking among women from UK & Ireland, New Zealand, and Middle East & North Africa. Data from the earlier 1983 Risk Factor Prevalence Survey also show high levels of cigarette consumption among men from southern Europe compared with relatively low levels among UK and other English-speaking birthplace groups, and even lower levels among women from southern Europe (Australian Institute of Health 1989).

7.9 Chronic diseases

Respondents were questioned about whether they experienced any chronic diseases. These answers were then coded. One type of data output was in terms of 17 major

illness groups, plus one 'unspecified' group. In the cross-tabulations by birthplace, there were insufficient numbers in the category 'congenital anomalies' to permit analysis. The category 'complications of pregnancy, childbirth and the puerperium' obviously does not apply to males. Therefore 15 groups of illnesses for men, and 16 for women form the basis of the following discussion.

The major components of each major disease category are given below. Figures in brackets refer to the number of persons, in thousands, reporting that condition (Australian Bureau of Statistics 1991b).

Infectious and parasitic: Mostly 'other'.

Endocrine, nutritional and metabolic diseases and immunity disorders: High cholesterol (383.0), diabetes (193.7), gout (187.8) and thyroid (142.5).

Neoplasms (273.8)

Diseases of blood and blood-forming organs (146.0).

Mental disorders: Nerves, tension, nervousness, emotional problems (161.2), mental retardation (72.2), depression (46.8) and psychoses (25.7).

Diseases of the nervous system and sense organs: Disorders of refraction and accommodation (5351.9), deafness (complete or partial) (685.4), migraine (578.2), other diseases of the eye and adnexa (560.9).

Diseases of the circulatory system: Hypertension (1210.0), varicose veins (414.8), heart disease (317.1), haemorrhoids (197.0), and ill-defined (193.4).

Diseases of the respiratory system: Hayfever (1658.2), asthma (1364.8), sinusitis (548.7) and bronchitis and emphysema (500.5).

Diseases of the digestive system: Hernia (261.4) and ulcer (230.7).

Diseases of the genitourinary system: Kidney disease (165.3), disorders of menstruation (88.5) and other urinary tract (86.7).

Diseases of the skin and subcutaneous tissue: Eczema and dermatitis (627.3).

Diseases of the musculoskeletal system: and connective tissue: Arthritis (1803.4), back trouble (1370.6) and disorders of the intervertebral disc (446.4).

Symptoms, signs and ill-defined conditions: Allergy unspecified (363.4), headache – due to unspecified or trivial cause (82.1), insomnia (69.6), headache – due to stress or tension (43.3).

Injury and poisoning: Injuries (218.0).

Disability not elsewhere classified (115.2).

The first step was to analyse the age-standardised ratios with respect to each of these 15 groups (16 for women) for the major birthplace groups: Australia, United Kingdom & Ireland, Overseas minus United Kingdom & Ireland, Total Overseas, Greece and Italy. These results are shown separately for males and females in Tables 7.22 and 7.23. For simplicity 'Overseas minus United Kingdom & Ireland' will be referred to as 'non-British immigrants'; this group includes Greeks and Italians.

For each of the chronic illness groups shown, non-British immigrant men have lower age-standardised ratios than Australian-born men, with significantly low ratios with respect to 8 of the 15 conditions: infectious and parasitic diseases, neoplasms, diseases of the nervous and sense organs, diseases of the circulatory system, diseases of the res-

piratory system, diseases of the skin and subcutaneous tissue, diseases of the musculoskeletal system and connective tissue, and injury and poisoning.

In contrast men born in United Kingdom & Ireland have significantly low levels of chronic illness for only two conditions: neoplasms, and endocrine, nutritional and metabolic and immunity disorders, and have significantly higher prevalence than for total Australia with respect to diseases of the nervous system and sense organs, and diseases of the respiratory system. Greek and Italian men also have lower levels of chronic illnesses than Australian-born men for all illnesses for which data are available with the exception of higher levels of Italian men with endocrine disorders, probably linked to their higher incidence of diabetes.

Although non-British immigrants have lower age-standardised ratios than Australian-born women for 12 of the 16 groups, they have higher ratios with regard to diseases of the blood and blood-forming organs, mental disorders, and for symptoms, signs and ill-defined conditions. Only the last of these is significantly higher than the standard value for total Australia of 100. Significantly low values occur for seven of the 12 conditions: neoplasms, diseases of the nervous system and sense organs, diseases of the circulatory system, diseases of the respiratory system, diseases of the genitourinary system, diseases of the skin and subcutaneous tissue, and diseases of the musculoskeletal system and connective tissue.

British-born women have lower age-standardised ratios than the Australian-born for only 5 of the 16 conditions, but none of these is significant. They also have significantly high age-standardised ratios with respect to three conditions: diseases of the blood and blood-forming organs, diseases of the nervous system and sense organs, and diseases of the genitourinary system. Greek and Italian women have significantly low proportions with chronic diseases of the nervous system and chronic diseases of the respiratory system. However, Italian women have high ratios for endocrine disorders, diseases of the musculoskeletal system, diseases of the digestive system and ill-defined conditions, the last two of these being significantly high.

From these figures, the general conclusion is that, overall, non-British immigrant men and women have a lower prevalence of chronic illness for most of the major conditions compared with British immigrants, total Australia and the Australian-born. The figures also show that the health advantage of British immigrants, particularly women, is less pronounced, with inferior health status for some conditions.

The non-British immigrant group consists of a great many diverse birthplace groups, and so the next step is to compare these. This part of the analysis has been restricted to those illness conditions reported in sufficiently large numbers. In addition, illness conditions which are themselves heterogeneous or which relate to relatively less severe conditions have been omitted, namely: diseases of the nervous system and sense organs (which includes a large component whose chronic 'illness' is the wearing of spectacles), and diseases of the skin and subcutaneous tissue (which relates largely to skin diseases). It should also be remembered that many of the illness groups are also heterogeneous, and for this reason the results must be treated with caution. Further analysis of subgroups within these illness groups is important, but beyond the scope of the present study.

The chronic illness groups chosen for this part of the analysis are:

- Endocrine, nutritional and metabolic and immunity disorders.
- Diseases of the circulatory system.
- Diseases of the respiratory system.

- Diseases of the digestive system.
- Diseases of the musculoskeletal system and connective tissue.

For simplicity these will be referred to by the first condition in the title in the subsequent discussion (e.g. endocrine disorders). Age-standardised ratios for these chronic illnesses are summarised in Tables 7.24 and 7.25.

Endocrine, nutritional and metabolic disorders

This group includes diabetes mellitus and high blood sugar, with the addition of thyroid disease, gout, obesity, high cholesterol, and other endocrine, nutritional and metabolic disorders. To date, the Australian Bureau of Statistics has released a summary paper only with respect to diabetes (Australian Bureau of Statistics 1991c). This suggests that 1.4 per cent of the total population has diabetes, and also finds relatively high rates among those from southern Europe, and among those from South-East Asia.

The main observation with regard to endocrine disorders is the high levels among those from Italy (males and females), Middle East & North Africa (males), north-east Europe (females) and 'All other' (males and females). 'All other' includes persons from the Pacific Islands, who have a relatively high level of diabetes.

Diseases of the circulatory system

With respect to diseases of the circulatory system, the highest age-standardised ratios occur among men born in Malta, Poland, Middle East & North Africa, Germany and Australia, and among women born in Poland, north-east Europe, and Greece. The relationship between the age-standardised proportions with circulatory disease and the standardised mortality ratios from diseases of the circulatory system was also investigated, and the results of this are presented in Figure 7.12. Men from Greece, Italy and Yugoslavia have low levels for both indices. Among both men and women, Poles have the highest indices for each measure. To some extent birthplace populations with a low level of chronic illness from circulatory disease also have a low standardised mortality ratio, but with several exceptions. In particular Italian men, and Greek and Italian women have higher level of reported chronic illness from heart disease than the levels of mortality would suggest, while Indian men and Maltese women have a lower reported level of chronic illness in relation to their level of mortality. There is some similarity in the experience of Australian-born, New Zealand-born and those born in UK & Ireland, among both men and women.

It is interesting to examine the relationship between diseases of the circulatory system and some of the lifestyle factors thought to contribute to their risk. There appeared to be no consistent relationship between the level of exercise of a given birthplace population and its incidence of circulatory disease, although to some extent there is the expected negative relationship between the two for some birthplace groups. However, several birthplaces contradict this relationship, notably, Greek, Yugoslav, and Italian men. The relationship is even less evident among women; with them, the main observation is the similar experience of those born in Australia, United Kingdom and Ireland, New Zealand, the Netherlands and Poland.

The relationship between the proportion overweight and the proportion with heart disease is perhaps closer among men, but still diverse among women. Among men, the exceptions are again Greek, Yugoslav and Italian men, who have lower levels of circulatory disease in terms of their high proportions who are overweight. Among women, those from Middle East & North Africa, Yugoslavia and Malta have low levels of re-

ported chronic illness from heart disease but a high proportion who are overweight (although, in fact Maltese women have relatively high mortality from heart disease). Similar combinations of levels of overweight and diseases of the circulatory system occur among men from Australia, UK & Ireland, and Germany, and among women from Australia, UK & Ireland, the Netherlands and New Zealand.

This analysis shows marked departures from the expected relationship between weight, exercise and heart disease among Mediterranean immigrants. However, it is important to realise that the combination of several factors may place people at greater risk than the factors individually, and so the the inclusion of additional variables such as cholesterol level and diet in the analysis may be of value. Although cholesterol level is one of the reported chronic illnesses, it is unfortunate that it is not possible to obtain information on dietary levels from this survey. It may be that, as seems possible in their countries of origin, dietary factors, particularly the use of oil rather than animal fat, provide some protection against diseases of the circulatory system among people from the Mediterranean region.

Diseases of the respiratory system

Significantly high levels of chronic illness from diseases of the respiratory system occur for the Australian-born (males and females) and for British men, with high values also for those from Malaysia (males and females), in contrast to the low levels among those from Vietnam and other South-East Asia. Significantly low ratios occur among men and women from Greece, Italy, Yugoslavia and Middle East & North Africa (see Tables 7.24 and 7.25).

There is some relationship between the level of mortality from diseases of the respiratory system and the level of reported chronic illness from this condition among the various birthplace groups (see Figure 7.13). Low levels for both indices occur among Greek, Italian, Yugoslav, Polish, German and Chinese men and women, while the Australian-born and those from UK & Ireland have the highest levels for both. However, Vietnamese men have an even lower level of mortality from diseases of the respiratory system than would be expected from their already low levels of reported chronic illness, while Maltese men have a higher level of mortality than would be expected.

Diseases of the digestive system

For many birthplace groups there are insufficient numbers to calculate age-standardised ratios for diseases of the digestive system, but high ratios are found for men from Yugoslavia, Middle East & North Africa and New Zealand, and for women from Italy, Yugoslavia and north-east Europe (see Tables 7.24 and 7.25).

There is some association between the level of mortality from diseases of the digestive system and reported chronic illness from this condition among the various birthplace groups. Thus at one end of the scale, Greek men have both low levels of mortality and a low incidence of chronic illness from this condition, while at the other end of the scale Yugoslav men have high levels for both these measures. Among both men and women, the Australian-born and those from Yugoslavia and UK & Ireland have relatively high levels for both indices. Departures from the expected relationship occur in that New Zealand-born men and Greek-born women have higher levels of chronic illness than would be expected from their levels of mortality from diseases of the digestive system (see Figure 7.14).

Diseases of the musculoskeletal system

The 1989–90 National Health Survey showed that 20.9% of the total population experienced one or more musculoskeletal conditions. The most common types of condition

were arthritis (11.4%) and back trouble unspecified (9.1%), with also a rather large category of 'other', which included aches and sore muscles and joints. Other conditions included disorders of the intervertebral disc (2.8%), rheumatism (1.0%), and sciatica (0.7%) (Australian Bureau of Statistics 1991f).

Relatively high proportions of respondents stated that they had chronic illness from diseases of the musculoskeletal system, possibly partly as a result of the questionnaire giving the prompt of 'back trouble'. Significantly high age-standardised ratios occur for men born in Germany, other north-east Europe, and Australia, and high levels occur for women born in the United States, Italy, and other north-east Europe. At the other extreme, significantly low ratios are found for those from Middle East & North Africa (men), Greece (men), South-East Asia (both) and north-east Asia (both) (see Tables 7.24 and 7.25).

Other earlier findings

The earlier 1977–78 Australian Health Survey conducted by the Australian Bureau of Statistics also collected data on acute and chronic illnesses, and on mental health. While the coverage and form of the questions were not identical with the 1989–90 National Health Survey, there are some broad similarities in the findings. In particular, both sets of data show higher levels of chronic illness among the Australian-born than among other birthplace groups, but a lower incidence of mental illness among the Australian-born, those from UK & Ireland and other English-speaking immigrants compared with the high levels among men and women from southern Europe and among men from other Europe (Australian Institute of Health 1987).

7.10 Summary profiles

Summary profiles are presented of each birthplace group in terms of age-standardised ratios relating to awareness and use of health services, use of medication, lifestyle and chronic illnesses from the 1989–90 National Health Survey. In these summaries the same convention for very high, high, low, etc. is used as in Chapter 5. The descriptions corresponding to the age-standardised ratios for the variables are indicated below:

Characteristic		Characteristic	Characteristic	
Use of hospitals		Women's health awareness	Weight	
Use of doctors		Exercise	Smoking	
Use of medication			Alcohol	
Chronic illnesses				
Ratio	**Description**	**Ratio**	**Ratio**	**Description**
130 or more	Very high	130 or more	Less than 70	Very good
111–129	High	111–129	70–89	Good
90–110	Moderate	90–110	90–110	Moderate
70–89	Low	70–89	111–129	Poor
Less than 70	Very low	Less than 70	130 or more	Very poor

When men and women have slightly different levels, a '/' (solidus) is used; for example, 'low/very low' means low for men and very low for women. Except in the case of Australian-born, chronic illnesses are not listed if they are 'moderate' (or if data are not available). It should be noted that because 79 per cent of the population is born in Australia, the SMR and all age-standardised ratios of the Australian-born are close to 100 and hence are described as moderate.

Endocrine disorders are listed only if their prevalence is high or very high. In this case, data relating to medium or high health risk from alcohol among women are used, so as to be compatible with the measure used for men. Note that the terms 'good', 'moderate', 'poor' etc. refer to the experience of males with that birthplace in relation to total males in Australia, and to the separate experience of females in relation to total females in Australia. Each birthplace group's level of mortality in Australia, measured in terms of the standardised mortality ratio (SMR), is also shown (see Chapter 5).

Australian-born—overall mortality (SMR) moderate

Awareness of women's health issues: Moderate

Use of hospitals: Moderate

Use of doctors: Moderate

Use of medication: Moderate

Lifestyle: Moderate with regard to exercise, weight and smoking, and alcohol.

Chronic illnesses: Moderate

United Kingdom & Ireland—overall mortality (SMR) moderate

Awareness of women's health issues: Moderate

Use of hospitals: Moderate

Use of doctors: Moderate

Use of medication: Sleeping tablets low (men). Pain relievers moderate. Tranquillisers low/very low.

Lifestyle: Moderate with regard to exercise (men), weight (both), smoking (men), and alcohol (men). Good with regard to exercise (women). Poor with regard to smoking (women) and alcohol (women).

Chronic illnesses: High respiratory diseases (men) and digestive diseases (women).

Italy—overall mortality (SMR) low (men), very low (women)

Awareness of women's health issues: Poor, but better at the younger ages.

Use of hospitals: Low (men). Moderate (women).

Use of doctors: Moderate

Use of medication: Sleeping tablets very low/low. Pain relievers low (males) and moderate (females). Tranquillisers high/very high.

Lifestyle: Very poor with regard to exercise (both). Poor/very poor with regard to weight (both). Poor with regard to smoking (men). Very good with regard to smoking (women) and alcohol consumption (both).

Chronic illnesses: High endocrine disorders (both), very high digestive (women) and high musculoskeletal (women). Low circulatory diseases (men) and low/very low respiratory diseases.

Greece—overall mortality (SMR) very low

Awareness of women's health issues: Poor, but better at the younger ages.

Use of hospitals: Very low (men), moderate (women).

Use of doctors: Very high (both).

Use of medication: Very high sleeping tablets and tranquillisers (both). Pain relievers moderate (men) and high (women).

Lifestyle: Very poor with regard to exercise (both). Poor/very poor with regard to weight. Very poor with regard to smoking (men). Very good with regard to smoking (women) and alcohol consumption (both).

Chronic illnesses: Very low respiratory diseases (both), very low circulatory diseases (men), low musculoskeletal (men).

Malta—overall mortality (SMR) moderate

Awareness of women's health issues: Moderate

Use of hospitals: High (women).

Use of doctors: Very high (men) moderate (women).

Use of medication: Pain relievers high (men) low (women).

Lifestyle: Very poor with regard to exercise (both). Poor/very poor with regard to weight. Good with regard to smoking (women) and very good with regard to alcohol (men).

Chronic illnesses: Very low/low respiratory diseases, very low digestive diseases (women), low musculoskeletal (women), very low circulatory (women). High circulatory diseases (men).

Yugoslavia—overall mortality (SMR) moderate (men) low (women)

Awareness of women's health issues: Low, but slightly better for younger women.

Use of hospitals: Moderate (men), very low(women).

Use of doctors: High (both).

Use of medication: Pain relievers low (men) moderate (women).

Lifestyle: Very poor with regard to exercise (both). Poor/very poor with regard to weight. Poor with regard to smoking (men). Good with regard to smoking (women). Good/very good with regard to alcohol.

Chronic illnesses: Low/very low circulatory disease (both). Very low respiratory disease (both). High digestive diseases (men), and musculoskeletal (women).

Germany—overall mortality (SMR) moderate

Awareness of women's health issues: Moderate

Use of hospitals: Low (both).

Use of doctors: Moderate (both).

Use of medication: Pain relievers moderate (both). Sleeping tablets high (women).

Lifestyle: Good with regard to exercise (men). Poor with regard to exercise, weight and smoking (women).

Chronic illnesses: Very low/low with regard to respiratory disease. Low circulatory disease (women). High circulatory disease (men) and musculoskeletal (men).

The Netherlands—overall mortality (SMR) moderate (men) low (women)

Awareness of women's health issues: Moderate

Use of hospitals: Low (men) high (women).

Use of doctors: Low (both).

Use of medication: Pain relievers low (men) moderate (women). Sleeping tablets high (women).

Lifestyle: Moderate with regard to exercise, weight and smoking (both). Very good with regard to low alcohol among men.

Chronic illnesses: Very low/low respiratory disease (both). Low circulatory disease (men).

Poland—overall mortality (SMR) moderate

Awareness of women's health issues: Low to moderate.

Use of hospitals: Very low (women).

Use of doctors: Low (both).

Use of medication: Pain relievers moderate (both).

Lifestyle: Very poor with regard to exercise, weight and smoking among men. Poor with regard to weight and smoking among women.

Chronic illnesses: Very low respiratory disease (both). High circulatory disease (men). Low musculoskeletal (men).

Middle East & North Africa—overall mortality (SMR) moderate (1980–82 figures)

Awareness of women's health issues: Low, although slightly better at the older ages.

Use of hospitals: Low (men) high (women).

Use of doctors: Very high (both).

Use of medication: Sleeping tablets very high (women). Pain relievers very high (men) moderate (women).

Lifestyle: Very poor with regard to exercise (both), weight (both) and smoking (men), but good/very good with regard to alcohol consumption.

Chronic illnesses: Very low respiratory disease (both). Very low circulatory disease and digestive disease (women). Low musculoskeletal disease (men). Very high endocrine, circulatory, and digestive (men).

Malaysia—overall mortality (SMR) very low (men) low (women)

Awareness of women's health issues: Moderate to low.

Use of hospitals: Very low (men) low (women).

Use of doctors: Low (women).

Use of medication: Pain relievers very low (both).

Lifestyle: Very good (men) moderate (women) with regard to exercise. Very good with regard to weight (both), smoking (both) and alcohol (men).

Chronic illnesses: Very low/low musculoskeletal disease. Very high/high respiratory disease.

Vietnam—overall mortality (SMR) very low

Awareness of women's health issues: Very low.

Use of hospitals: Moderate (women).

Use of doctors: Very high (men) moderate (women).

Use of medication: Pain relievers moderate (men) very low (women).

Lifestyle: Very good with regard to alcohol (men). Poor/very poor with regard to exercise. Poor with regard to smoking (men).

Chronic illnesses: Very low musculoskeletal disease (both). Low respiratory disease (women).

China—overall mortality (SMR) low

Awareness of women's health issues: Very low.

Use of hospitals: Low

Use of doctors: Very low (women).

Use of medication: Pain relievers very low (both).

Lifestyle: Poor with regard to exercise (both). Very good with regard to weight (both), good with regard to smoking (men).

Chronic illnesses: Very low musculoskeletal disease (both). Low/very low respiratory disease.

India—overall mortality (SMR) low

Awareness of women's health issues: Low to moderate.

Use of hospitals: Low (women).

Use of doctors: High (men) low (women).

Use of medication: Pain relievers moderate (men), low (women).

Lifestyle: Moderate exercise. Good/very good with regard to weight . Good/very good with regard to smoking. Very good with regard to alcohol (men).

Chronic illnesses: Very low/low circulatory disease. Low respiratory disease (women). Low musculoskeletal disease (both).

United States—overall mortality (SMR) moderate (men) high (women)

Awareness of women's health issues: Moderate to good.

Use of hospitals: Not available.

Use of doctors: Not available.

Use of medication: Pain relievers moderate (both).

Lifestyle: Very good with regard to exercise (both). Good with regard to weight (men). Moderate (men) and very good (women) with regard to smoking.

Chronic illnesses: High musculoskeletal disease (both).

New Zealand—overall mortality (SMR) moderate

Awareness of women's health issues: Moderate.

Use of hospitals: Low (men), moderate (women).

Use of doctors: High (men), moderate (women).

Use of medication: Pain relievers low (men), moderate women. Sleeping pills low (women).

Lifestyle: Moderate with regard to exercise and weight. Very poor with regard to smoking (women) and alcohol consumption (both).

Chronic illnesses: Low respiratory disease (men), and low circulatory (men). Very high digestive (men), very low digestive (women).

7.11 Summary and conclusions

The Women's Health questionnaire indicates a very low awareness of women's health issues among women from Vietnam, China and other north-east Asia, and low awareness among women from southern Europe, Middle East & North Africa and other parts of Asia, although awareness seems to be increasing among younger women from southern Europe. Nevertheless the lack of knowledge and experience of breast examinations and mammograms among women from South-East Asia and north-east Asia seems to be matched by a low level of mortality from breast cancer, while birthplace populations with more experience of these tests also generally have higher mortality from breast cancer. There is also a low use of oral contraception among women from Vietnam and other parts of Asia, and low proportions who have had a hysterectomy.

The proportions of women who have had a hysterectomy increases rapidly with age while the proportions taking the contraceptive pill decreases rapidly. The relative proportions of women in either of these categories at a given age varies between birthplace groups, possibly at least partly through cultural preferences. Even though a hysterec-

tomy may have been done primarily for medical reasons, this and the contraceptive pill represent two very reliable methods of birth control. It is of interest that women from the various Asian regions, especially Vietnamese women (who have a relatively high level of fertility), were less likely to be using either method. Nevertheless, Vietnamese women in Australia are far more likely to be using the contraceptive pill than Vietnamese women in Vietnam.

Birthplace groups with a low level of exercise also seem to be the same birthplace groups with high proportions overweight or obese, and these include each of the southern European groups and those from Middle East & North Africa. These birthplace groups also tend to have a high use of doctors and a high use of medication, and the men have a high level of smoking. Although these birthplace groups may have a better diet than the Australian-born, their lifestyle is very poor in these other respects. However, the southern Europeans, with the exception of the Maltese, also have the lowest level of mortality among the various birthplace populations in Australia. However, in contrast, there are also birthplace groups with a healthy lifestyle and a low level of mortality, notably the Malaysians.

Some birthplace groups appear to have a high level of consultations with doctors in contrast to their low levels of mortality. These are men from Vietnam, followed by those from Greece, Malta and Middle East & North Africa, and women from Greece, followed by those from Vietnam, Italy, Yugoslavia and Middle East & North Africa. This may occur through different perceptions of health, a relatively higher component of mild illnesses, or possibly because their low level of mortality is also associated with ill-health arising from a poor lifestyle. On the other hand, the extent of doctor consultations is low in comparison with the level of mortality among Polish, Dutch and Chinese men, and among Chinese, Polish and New Zealand-born women. Low use of a doctor may mean that these people have a different perception of health, have a higher component of severe (and possibly also short-term) conditions, experience a sense of well-being through a healthy lifestyle despite their relatively higher level of mortality, have problems of access or have chosen other sources of health advice. The latter may apply to the Chinese.

Although a lack of English is thought to pose problems in access to health care, men with poor English language ability have higher levels of hospital admissions over all ages, and both men and women with poor English have higher levels of doctor consultations at ages 35–74 years than those with adequate English. It is possible that a doctor may recommend hospital admission for a non-English speaking patient because of the difficulty in conveying instructions about treatment to the patient or the patient's family. The lower use of hospitals at all ages among new arrivals compared with longer-term settlers is expected because of their self-selection and official selection with regard to health status. In contrast, their level of doctor consultations is about the same as for that of longer-term residents.

In general the non-British immigrant group has lower levels of reported chronic illness for the major disease categories than British immigrants or the Australian-born population, with the exception of endocrine disorders (men), mental disorders (both), diseases of the genitourinary system (men), and ill-defined conditions (both).

Although there is generally some relationship between the prevalence of reported chronic illness from a given condition and the level of mortality from that particular cause of death, this does not always occur. For some conditions and for some birthplaces the level of reported illness is higher than would be expected from the mortality statistics. This can be due to the heterogeneous nature of the chronic illness, and be-

cause of different perceptions of illness between birthplace groups. There is scope for further research into the data on chronic illness, particularly through the separation of mild and severe illnesses within a given disease classification.

The study has also pointed out the wide differences between men and women with regard to many of the variables, and highlighted the danger of using an aggregate rate for persons. Similarly, the variations by age which occur for many of the characteristics emphasise the importance of age-standardised measures or age-specific rates. Thirdly, the study has also identified several differences in experience between birthplace populations which originated from the same geographic region, and particularly the diversity within southern Europe and within South-East Asia.

Table 7.1: *Numbers with each birthplace in the main survey at ages 15–74 years, and number of women aged 18–64 years who completed the Women's Health Questionnaire, ABS 1989–90 National Health Survey*

	Main survey		Women's Health
	Males	Females	Females
Birthplace	15–74 years		18–64 years
		('000)	
Australia	4602.1	4661.5	3749.0
United Kingdom & Ireland	564.7	528.4	435.2
Italy	150.4	115.5	90.9
Greece	76.0	72.1	59.9
Malta	30.9	31.9	26.8
Yugoslavia	80.5	69.8	56.8
Other southern Europe	30.0	26.6	23.1
Germany	52.4	46.7	39.3
Netherlands	46.9	44.4	36.9
Other western Europe	29.7	22.0	18.4
Poland	25.0	33.8	20.6
Other north-east Europe, USSR & Baltic States	63.8	57.1	38.7
Middle East & North Africa	74.5	74.8	63.9
Malaysia	28.3	25.0	20.4
Vietnam	38.7	30.9	22.0
Other South-East Asia	69.0	91.7	79.6
China	22.7	21.7	12.2
Other north-east Asia	36.5	37.2	28.1
India	32.1	31.1	26.5
Other south Asia	19.0	16.6	10.4
USA	20.5	16.7	15.6
New Zealand	118.4	118.8	104.9
All other countries	95.9	94.3	80.6
Total	**6308.1**	**6268.8**	**5060.0**

These figures represent weighted survey data to conform to the estimated total population. See Australian Bureau of Statistics (1991a).

Table 7.2: *Proportion of the base population in the younger part of each broad age group, among Australian-born and overseas-born men and women in Australia, ABS 1989–90 National Health Survey*

Proportion relating to each age group	Males		Females	
	Australian-born	Overseas-born	Australian-born	Overseas-born
	(Percentages)			
15–24 / 15–34	53.0	36.6	52.6	35.5
18–24 / 18–34	43.9	29.9	43.5	30.0
35–44 / 35–54	59.9	55.6	60.5	56.6
55–64 / 55–74	54.9	61.7	50.8	56.0

Similar proportions for the Australian-born and overseas-born indicate that it is acceptable to compare their experience in the broad age group.

Table 7.3: *Age-specific rates within the 35–44 and 45–54 year age groups with regard to selected characterisitcs for all males and females, ABS 1989–90 National Health Survey*

Characteristic	Males			Females		
	35–44 yrs	45–54 yrs	Ratio	35–44 yrs	45–54 yrs	Ratio
	(Percentages)			(Percentages)		
Ever heard of Pap test				96.7	95.7	1.0
Ever had a Pap test				93.1	90.2	1.0
Ever had a breast examination				78.9	78.9	1.0
Ever examined own breasts				68.7	68.4	1.0
Ever heard of mammogram				85.3	85.3	1.0
Ever had a mammogram				21.8	32.9	1.5
Ever had a hysterectomy				12.6	24.9	*2.0
Using the contraceptive pill				12.8	2.5	*0.2
Admitted to hospital in last 12 months	9.0	11.6	1.3	15.2	15.0	1.0
Consulted a doctor in last 12 weeks	12.7	17.3	1.4	19.9	23.4	1.2
Sleeping medication in last 2 weeks	2.5	4.1	1.6	4.4	8.1	*2.0
Pain relievers in last 2 weeks	33.0	31.3	0.9	49.8	50.1	1.0
Tranquillisers in last 2 weeks	1.8	2.8	1.6	2.7	4.5	*1.7
Exercised moderately in last 2 weeks	33.4	25.7	0.8	28.5	25.6	0.9
Overweight or obese	49.0	54.5	1.1	29.5	40.7	1.4
Medium or high alcohol risk	14.9	15.8	1.1	7.8	8.5	1.1
Alcohol last week	77.1	75.9	1.0	57.0	52.6	0.9
Current smoker	34.1	32.0	0.9	25.0	23.4	0.9
Current + ex-smoker	61.5	64.7	1.1	42.8	42.1	1.0
Endocrine disorders	6.3	10.3	1.6	5.1	9.9	*1.9
Disease of circulatory system	9.2	15.7	*1.7	13.0	23.2	*1.8
Diseases of respiratory system	18.8	17.6	0.9	24.9	23.4	0.9
Disease of digestive system	6.1	7.9	1.3	5.2	8.5	1.6
Diseases of musculoskeletal system	32.7	36.5	1.1	28.8	41.2	1.4

* Indicates that a comparison of birthplace populations over the 20-year span of 35–54 years of age is unreliable unless their base populations have the same age structure within the 35–54 year age group.

Table 7.4: *Proportions of Australian-born and overseas-born women in Australia with regard to knowledge and experience of health-related measures, hysterectomy and contraception, ABS 1989–90 National Health Survey*

Knowledge or experience and birthplace	Age group in years					
	18–24	25–34	35–44	45–54	55–64	Total
	(Percentages)					
Ever heard of Pap test						
Australian-born	95	99	99	99	98	98
Overseas-born	83	92	91	89	86	89
Ever had Pap test						
Australian-born	66	95	95	95	86	88
Overseas-born	54	84	85	81	74	79
Ever had a breast examination						
Australian-born	48	75	82	82	76	72
Overseas-born	41	68	72	72	68	67
Ever examined own breasts						
Australian-born	50	63	70	70	67	63
Overseas-born	43	57	66	65	66	61
Ever heard of mammogram						
Australian-born	71	86	90	90	85	84
Overseas-born	58	70	74	76	73	71
Ever had a mammogram						
Australian-born	3	9	22	35	28	17
Overseas-born	3	10	21	29	28	19
Ever had a hysterectomy						
Australian-born	1	4	14	26	26	12
Overseas-born	**	4	11	24	18	12
Using the contraceptive pill						
Australian-born	50	37	14	3	na	25
Overseas-born	39	32	10	2	na	15
Using IUD						
Australian-born	1	3	4	2	na	2
Overseas-born	2	4	4	1	na	3

na = not applicable. Not asked of women over 50 years of age.

** Sampling variability too high.

Table 7.5: *Proportions of women from each birthplace who had ever had a Pap test, by age, ABS 1989–90 National Health Survey*

Birthplace	Age group in years				Total
	25–34	35–44	45–54	55–64	
	(Percentages)				
Australia	95	96	95	86	88
United Kingdom & Ireland	95	96	93	88	91
Italy	86	82	68	57	71
Greece	87	74	59	40	62
Malta	*100	94	78	*83	87
Yugoslavia	80	62	61	*53	62
Other southern Europe	80	*58	*55	*66	66
Germany	94	93	90	88	91
Netherlands	*95	89	100	98	96
Other western Europe	*93	94	**	*64	81
Poland	*76	*79	*66	*68	70
Other north-east Europe, USSR & Baltic States	*77	79	79	73	78
Middle East & North Africa	71	80	70	*53	68
Malaysia	*74	88	*81	**	77
Vietnam	*34	*45	**	**	34
Other South-East Asia	67	79	71	*57	61
China	**	*59	**	**	*37
Other north-east Asia	55	*57	**	**	48
India	*64	82	*72	**	64
Other south Asia	*75	**	*91	**	64
USA	100	*100	**	**	94
New Zealand	96	91	93	*90	89
All other countries	88	89	88	*65	83
Total overseas-born	84	85	81	74	79
Total	92	93	90	82	86

* Subject to variability between 25% and 50%.

** Sampling variability too high.

Total includes ages 18–24 years.

Table 7.6: *Age-standardised ratios of the proportions who had ever had a Pap test, breast examination, mammogram, or hysterectomy, or who were currently taking the contraceptive pill, ABS 1989–90 National Health Survey*

Birthplace	Ever had: Pap test	Breast examination	Mammogram	Hysterectomy	Taking contraceptive pill
Australia	*103	*103	102	*106	*105
United Kingdom & Ireland	104	104	*113	107	100
Italy	*80	*80	*72	*71	68
Greece	*70	*79	82	78	61
Malta	97	90	85	124	na
Yugoslavia	*71	*79	94	73	77
Other southern Europe	*76	80	na	na	83
Germany	103	101	104	91	73
Netherlands	108	102	114	116	63
Other western Europe	93	95	na	na	na
Poland	80	92	127	na	na
Other north-east Europe, USSR & Baltic States	89	99	96	*34	115
Middle East & North Africa	*78	*79	111	82	*68
Malaysia	90	76	*47	*53	78
Vietnam	*39	*50			*39
Other South-East Asia	*71	*68			*59
China	*43	*49	69	46	*42
Other north-east Asia	*56	*50			
India	*73	*71	91	71	*48
Other South Asia	73	75			
USA	108	123	na	na	na
New Zealand	104	104	93	98	104
All other countries	95	101	103	67	101

* Significantly different from total Australia at the 5% level.
na = not available.

Table 7.7: *Proportions of women from each birthplace who had ever had a breast examination, by age, ABS 1989–90 National Health Survey*

Birthplace	Age group in years				Had breast exam.	Exam. own breasts
	25–34	35–44	45–54	55–64	Total	Total
	(Percentages)					
Australia	75	82	82	76	72	63
United Kingdom &Ireland	74	85	80	76	77	69
Italy	78	56	60	65	62	60
Greece	80	71	55	48	60	56
Malta	*79	73	*64	*57	69	65
Yugoslavia	65	61	66	*53	59	53
Other southern Europe	75	*60	*43	**	58	58
Germany	*78	87	67	73	76	62
Netherlands	*72	76	90	*74	77	71
Other western Europe	*57	84	**	*92	69	69
Poland	*68	*59	*74	86	69	54
Other north-east Europe, USSR & Baltic States	*70	79	78	77	74	52
Middle East & North Africa	62	63	60	*41	57	50
Malaysia	*63	*52	*70	**	54	52
Vietnam	*28	*51	**	**	34	34
Other South-East Asia	49	57	*57	*50	43	55
China	**	*36	**	**	*35	*33
Other north-east Asia	*34	*41	**	**	35	35
India	*40	78	*60	**	52	50
Other south Asia	**	**	*100	**	55	*45
USA	88	*100	**	*100	86	63
New Zealand	78	74	82	*83	73	66
All other countries	72	78	81	*70	72	63
Total overseas-born	68	72	72	68	67	61
Total	73	79	79	74	71	63

* Subject to variability between 25% and 50%.
** Sampling variability too high.
Total includes ages 18–24 years.

Table 7.8: *Age-specific proportions of Australian-born and overseas born men and women receiving hospital, medical or other care or advice, ABS 1989–90 National Health Survey*

Characteristic, birthplace and sex		Age group in years			
		15–34[a]	35–54	55–74	75+[a]
Admitted to hospital during the past 12 months					
Australian-born	M	8.9	10.5	20.7	27.3
Overseas-born	M	5.7	8.7	16.0	28.1
Australian-born	F	19.9	15.4	16.1	25.7
Overseas-born	F	20.5	14.0	16.0	20.9
Whether visited casualty/outpatients in the past 2 weeks					
Australian-born	M	2.4	2.1	3.4	4.0
Overseas-born	M	1.8	2.3	3.9	2.9
Australian-born	F	2.6	2.0	2.5	3.5
Overseas-born	F	3.3	2.4	3.2	4.0
Whether consulted a doctor in the past 2 weeks					
Australian-born	M	12.1	14.4	25.9	33.9
Overseas-born	M	12.8	15.1	29.5	36.0
Australian-born	F	22.7	21.1	29.3	38.2
Overseas-born	F	22.1	21.7	30.2	40.1
Whether consulted a specialist in the past 2 weeks					
Australian-born	M	1.3	1.9	4.1	3.8
Overseas-born	M	1.4	2.2	3.7	6.2
Australian-born	F	3.9	4.0	3.8	4.3
Overseas-born	F	4.2	3.9	3.8	2.1
Proportion who had not seen a doctor for 12 months or more					
Australian-born	M	25.6	25.9	12.8	4.2
Overseas-born	M	29.3	27.2	15.1	6.0
Australian-born	F	11.7	14.8	10.1	4.6
Overseas-born	F	12.3	16.3	10.2	4.0
Proportion who had consulted a chiropractor in the past 2 weeks					
Australian-born	M	9.2	12.2	6.6	3.5
Overseas-born	M	6.7	8.6	5.3	2.6
Australian-born	F	8.6	11.6	6.2	3.0
Overseas-born	F	5.3	6.8	5.1	**
Proportion who consulted a chemist in the past 2 weeks					
Australian-born	M	2.5	2.0	1.7	**
Overseas-born	M	2.5	2.4	1.5	**
Australian-born	F	4.7	3.1	1.6	1.5
Overseas-born	F	4.0	2.9	2.0	1.3

(a) These proportions may be affected by the different age structures within the age group.
** Sampling variability too high.

Table 7.9: *Age-standardised ratios of the proportions admitted to hospital or who consulted a doctor, among men and women with each birthplace—ages 15–74 years, ABS 1989–90 National Health Survey*

	Admitted to hospital during past 12 months		Consulted a doctor during past 2 weeks	
Birthplace	**Males**	**Females**	**Males**	**Females**
Australia	*107	101	98	100
United Kingdom & Ireland	92	101	102	95
Italy	89	108	102	104
Greece	*41	100	*135	*134
Malta	na	120	*194	104
Yugoslavia	100	*68	113	112
Other southern Europe	na	93	94	141
Germany	73	89	92	102
Netherlands	85	126	78	87
Other western Europe	na	na	74	56
Poland	na	*55	70	86
Other north-east Europe, USSR & Baltic States	85	110	95	105
Middle East & North Africa	89	120	*140	*138
Malaysia	na	na	na	70
Vietnam	na	94	*189	99
Other South-East Asia	61	*66	96	*72
China	na	na	na	*47
Other north-east Asia	na	78	75	73
India	na	80	111	86
Other south Asia	na	na	na	na
USA	na	na	na	na
New Zealand	78	108	115	99
All other countries	104	104	114	*129
Total South-East Asia	*68	*72	121	*77
Total north-east Asia	70	76	71	*63
Total south Asia	63	93	87	87

* Significantly different from total Australia at the 5% level.
na = not available.

Table 7.10: *Proportions admitted to hospital during the past 12 months by sex, age, broad birthplace grouping and language of the interview, ABS 1989–90 National Health Survey*

Sex, age and language of the interview	Birthplace				Total
	Australia	English-speaking background	Europe	Other	
	(Percentages)				
Males					
15–34 years					
Fully in English	8.8	7.0	5.0	4.0	5.6
Partly or not at all					9.0
35–54 years					
Fully in English	10.4	8.5	9.0	7.8	8.5
Partly or not at all					12.7
55–74 years					
Fully in English	20.7	18.3	12.6	18.9	15.8
Partly or not at all					17.1
75 or more years					
Fully in English	26.0	31.6	17.2	24.0	26.6
Partly or not at all					34.1
Females					
15–34 years					
Fully in English	20.1	21.2	19.5	18.7	20.1
Partly or not at all					32.6
35–54 years					
Fully in English	15.4	15.4	14.3	11.5	14.1
Partly or not at all					13.6
55–74 years					
Fully in English	16.0	16.9	16.0	12.7	16.1
Partly or not at all					12.1
75 or more years					
Fully in English	25.3	19.8	18.3	22.1	19.8
Partly or not at all					18.8

Table 7.11: *Proportions admitted to hospital during the past 12 months according to broad birthplace, sex, current age and year of arrival, ABS 1989–90 National Health Survey*

Sex, current age and year of arrival	Birthplace	
	English-speaking background	Total
	(Percentages)	
Males		
15–34 years		
Before 1980	8.5	7.0
1980 or later		4.3
35–54 years		
Before 1980	9.2	9.2
1980 or later		6.7
55–74 years		
Before 1980	18.6	16.1
1980 or later		15.6
75 or more years		
Before 1980	33.2	29.1
1980 or later		10.9
Females		
15–34 years		
Before 1980	24.0	22.3
1980 or later		18.8
35–54 years		
Before 1980	13.9	14.3
1980 or later		13.1
55–74 years		
Before 1980	17.9	16.6
1980 or later		11.0
75 or more years		
Before 1980	21.9	21.4
1980 or later		17.1

Table 7.12: *Proportions who consulted a doctor or specialist during the previous two weeks by sex, age, broad birthplace grouping and language of the interview, ABS 1989–90 National Health Survey*

Sex, age and language of the interview	Birthplace				Total
	Australia	English-speaking background	Europe	Other	
	(Percentages)				
Males					
15–34 years					
Fully in English	12.0	13.9	13.4	11.3	12.9
Partly or not at all					3.5
35–54 years					
Fully in English	14.3	13.2	15.0	17.2	14.7
Partly or not at all					24.1
55–74 years					
Fully in English	25.7	29.1	27.4	30.8	28.5
Partly or not at all					36.8
75 or more years					
Fully in English	33.7	36.3	37.6	33.2	36.4
Partly or not at all					31.8
Females					
15–34 years					
Fully in English	22.9	22.3	20.5	24.1	22.6
Partly or not at all					15.4
35–54 years					
Fully in English	21.1	20.3	24.2	18.9	21.3
Partly or not at all					25.7
55–74 years					
Fully in English	29.2	28.3	28.9	33.9	29.2
Partly or not at all					35.1
75 or more years					
Fully in English	38.1	40.6	34.9	42.2	39.8
Partly or not at all					33.0

Table 7.13: *Proportions who consulted a doctor or specialist during the previous two weeks by sex, current age and year of arrival, ABS 1989–90 National Health Survey*

Sex, current age and year of arrival	English-speaking background	Total
	(Percentages)	
Males		
15–34 years		
Before 1980	13.7	13.8
1980 or later		11.8
35–54 years		
Before 1980	13.6	15.8
1980 or later		12.8
55–74 years		
Before 1980	30.1	29.4
1980 or later		29.9
75 or more years		
Before 1980	38.0	37.5
1980 or later		na
Females		
15–34 years		
Before 1980	22.4	21.9
1980 or later		22.3
35–54 years		
Before 1980	20.1	22.5
1980 or later		18.9
55–74 years		
Before 1980	28.8	29.5
1980 or later		37.8
75 or more years		
Before 1980	43.3	42.6
1980 or later		na

na = not available; numbers too small.

Table 7.14: *Proportion of Australian-born and overseas-born employed men with days away from work in the two weeks prior to the interview, by age, ABS 1989–90 National Health Survey*

Age group in years	Australian-born	Overseas-born
	(Percentages)	
15–24	10.5	9.3
25–34	8.6	9.2
35–44	7.0	6.5
45–54	7.2	7.1
55–64	8.0	9.6

Table 7.15: *Proportion of Australian-born and overseas-born males and females who experienced an accident in the last 12 months, by age, ABS 1989–90 National Health Survey*

	Males		Females	
Age group in years	Australian-born	Overseas-born	Australian-born	Overseas-born
		(Percentages)		
5–14	8.9	**	8.1	**
15–34	12.1	9.9	5.8	4.1
35–54	6.2	4.8	5.0	4.9
55–74	5.4	4.3	6.2	4.2
75+	6.2	**	7.2	5.5

** Sampling variability too high.

Table 7.16: *Age-specific proportions of Australian-born and overseas-born men and women with respect to taking sleeping tablets, pain relievers and tranquillisers, ABS 1989–90 National Health Survey*

Characteristic, birthplace and sex		Age group in years			
		15–34[a]	35–54	55–74	75+[a]
		(Percentages)			
Took sleeping medication during the last two weeks					
Australian-born	M	1.0	3.3	10.6	13.8
Overseas-born	M	1.4	3.0	7.8	13.2
Overseas-born—UK	M	1.5	3.3	7.9	12.5
Australian-born	F	1.9	5.7	17.5	27.5
Overseas-born	F	2.5	6.2	16.3	26.5
Overseas-born—UK	F	3.3	6.6	15.2	25.5
Took pain relievers during the past 2 weeks					
Australian-born	M	28.9	33.9	34.0	38.8
Overseas-born	M	29.0	29.3	30.5	34.7
Overseas-born—UK	M	27.4	28.1	29.1	30.7
Australian-born	F	46.5	51.0	45.9	44.9
Overseas-born	F	38.6	47.7	43.9	43.4
Overseas-born—UK	F	54.5	45.8	45.2	51.9
Proportion of those taking pain relievers whose pain relievers were prescribed by a doctor					
Australian-born	M	11.4	17.7	48.5	69.2
Overseas-born	M	12.1	20.8	48.9	66.9
Overseas-born—UK	M	12.9	24.6	49.5	65.8
Australian-born	F	13.3	19.4	49.2	68.8
Overseas-born	F	15.8	23.9	46.9	64.5
Overseas-born—UK	F	17.4	26.9	48.3	62.0
Proportion of total who were taking pain relievers more than once per week					
Australian-born	M	3.1	8.1	18.0	28.4
Overseas-born	M	4.3	6.2	14.8	22.2
Overseas-born—UK	M	3.9	7.1	15.8	23.3
Australian-born	F	13.5	22.0	48.8	62.6
Overseas-born	F	14.8	29.1	51.9	65.5
Overseas-born—UK	F	15.1	33.5	55.9	62.4
Took tranquillisers during the past 2 weeks					
Australian-born	M	0.6	2.3	5.3	5.6
Overseas-born	M	0.5	2.1	4.1	2.6
Overseas-born—UK	M	0.3	2.2	4.6	**
Australian-born	F	1.1	3.5	7.7	7.3
Overseas-born	F	0.8	3.3	6.1	4.1
Overseas-born—UK	F	0.9	4.0	6.5	5.1

[a] These proportions may be affected by the different age structures within the age group.
** Sampling variability too high.

Table 7.17: *Age-standardised ratios of the proportions with respect to medications and lifestyle among each birthplace population in Australia, males, ages 15–74 years, ABS 1989–90 National Health Survey*

Birthplace	Sleeping pills	Pain relievers	Tranquillisers	Exercise	Overweight	Current smoker	Medium or high alcohol risk	SMR 1987–89
Australia	*105	*103	107	*103	101	98	*111	*103
United Kingdom & Ireland	75	102	77	104	*91	101	99	*96
Italy	68	*85	123	*45	*128	113	*65	*73
Greece	*186	104	*194	*56	*129	*138	*45	*59
Malta	na	110	na	*34	121	108	*26	95
Yugoslavia	na	88	na	*45	*120	120	76	*91
Other southern Europe	na	114	na	67	118	107	69	
Germany	na	109	na	113	93	96	96	95
Netherlands	na	85	na	102	94	107	*54	*92
Other western Europe	na	71	na	85	89	130	na	
Poland	na	97	na	*55	131	*152	na	*108
Other north-east Europe, USSR & Baltic States	na	79	na	107	99	119	83	
Middle East & North Africa	na	111	na	*61	*122	*130	*10	
Malaysia	na	65	na	*133	*43	*51	na	*62
Vietnam	na	92	na	77	na	118	*0	*59
Other South-East Asia	na	*76	na	91	*66	83	*8	
China	na	*39	na	72	*58	89	na	*74
Other north-east Asia	na	*59	na	111	*32	108	*26	
India	na	107	na	107	79	82	*31	*83
Other south Asia	na	75	na	120	na	69	na	
New Zealand	na	*75	na	110	109	110	*143	105
USA	na	102	na	*154	79	94	na	92
Other	na	101	na	92	92	81	*52	

* Significantly different from total Australia at the 5% level. na = not available. SMR = Standardised mortality ratio (see Chapter 5).

Table 7.18: *Age-standardised ratios of the proportions with respect to medications and lifestyle among each birthplace population in Australia, females, ages 15–74 years, ABS 1989–90 National Health Survey*

Birthplace	Sleeping pills	Pain relievers	Tranquillisers	Exercise	Overweight	Current smoker	Alcohol last week	SMR 1987–89
Australia	100	*103	105	*104	99	103	*104	*103
United Kingdom & Ireland	102	98	*69	*111	*90	*122	*118	98
Italy	85	100	*148	*44	*130	*50	*62	*69
Greece	*160	112	157	*40	*149	*61	*48	*60
Malta	na	*71	na	*40	*140	89	*58	94
Yugoslavia	59	99	na	*41	*152	87	*67	*84
Other southern Europe	na	103	na	67	*160	*55	*68	
Germany	112	101	na	80	118	119	118	*93
Netherlands	130	93	na	96	99	103	105	*80
Other western Europe	na	*59	na	93	na	90	84	
Poland	na	100	na	99	118	117	86	102
Other north-east Europe, USSR & Baltic States	88	97	na	116	123	95	89	
Middle East & North Africa	113	95	na	*53	*146	107	*43	
Malaysia	na	*51	na	108	*47	na	*43	*72
Vietnam	na	*63	na	*61	na	na	*22	*57
Other South-East Asia	56	*65	na	79	*79	*42	*48	
China	na	*49	na	84	67	na	*34	*83
Other north-east Asia	na	*44	na	*68	*30	*13	*49	
India	na	89	na	98	*69	*44	*58	*83
Other south Asia	na	77	na	na	na	na	44	
New Zealand	77	98	na	102	90	*140	*120	*108
USA	na	106	na	*147	na	*28	125	114
Other	138	98	na	108	88	83	95	

* Significantly different from total Australia at the 5% level. na = not available. SMR = Standardised mortality ratio (see Chapter 5).

Table 7.19: *Age-specific proportions of Australian-born and overseas-born men and women with respect to exercise, alcohol risk level and smoking, ABS 1989–90 National Health Survey*

Birthplace and sex		Age group in years			
		15–34[a]	35–54	55–74	75+[a]
		(Percentages)			
Walked for exercise in the past 2 weeks					
Australian-born	M	35.8	40.8	49.0	49.1
Overseas-born	M	35.7	37.9	51.5	49.8
Australian-born	F	49.6	49.6	52.9	37.3
Overseas-born	F	49.0	45.8	54.1	36.2
Exercised moderately in the past 2 weeks					
Australian-born	M	46.1	32.3	26.5	19.0
Overseas-born	M	40.7	26.1	22.4	22.4
Australian-born	F	39.9	29.5	23.7	11.5
Overseas-born	F	34.6	22.7	21.0	12.0
Exercised vigorously in the past 2 weeks					
Australian-born	M	38.7	17.9	5.9	2.0
Overseas-born	M	31.8	14.3	4.2	3.1
Australian-born	F	24.1	10.6	3.4	0.8
Overseas-born	F	18.6	6.7	3.1	0.0
Proportion overweight or obese					
Australian-born	M	33.7	52.0	51.0	30.8
Overseas-born	M	31.9	49.9	53.2	34.6
Australian-born	F	19.4	33.6	39.4	27.9
Overseas-born	F	16.5	35.1	46.8	27.6
Proportion with medium or high alcohol risk [b]					
Australian-born	M	18.9	17.3	13.4	2.9
Overseas-born	M	11.3	11.6	9.0	**
Australian-born	F	9.1	8.6	7.1	2.1
Overseas-born	F	6.4	6.8	4.4	2.3
Current smoker [b]					
Australian-born	M	37.5	32.1	22.6	9.0
Overseas-born	M	36.9	35.4	28.6	16.1
Australian-born	F	34.8	24.8	16.8	5.9
Overseas-born	F	27.5	23.2	16.5	7.7
Current smoker or ex-smoker [b]					
Australian-born	M	55.1	60.4	69.1	64.5
Overseas-born	M	53.1	67.5	79.2	71.4
Australian-born	F	51.9	43.5	36.4	21.1
Overseas-born	F	41.9	40.5	36.4	28.8

(a) These proportions may be affected by the different age structures within the age group 75 years or more.

(b) The first age group relates to 18–34 years and not 15–34 years.

** Sampling variability too high.

Table 7.20: *Comparison of the ABS 1989–90 National Health Survey (A) and the NHF 1989 Risk Factor Prevalence Survey (B) with respect to age-standardised ratios relating to lifestyle among each birthplace population in Australia, males, ages 15–74 and 20–69 years, respectively*

	Exercise[a]		Overweight		Curent smoker	
Birthplace	**A**	**B**	**A**	**B**	**A**	**B**
Australia	*103	100	101	100	98	100
United Kingdom & Ireland	*104	108	*91	+83	101	116
Italy	*45		*128		113	
Greece	*56		*129		*138	
Malta	*34	+227	121	+127	108	+150
Yugoslavia	*45		*120		120	
Other southern Europe	67		118		107	
Germany	113		93		96	
Netherlands	102	129	94	101	107	97
Other western Europe	85		89		130	
Poland	*55		*131		*152	
Other north-east Europe, USSR & Baltic States	107	+170	99	+145	119	82
Middle East & North Africa	*61	+211	+122	103	*130	140
Malaysia	*133		*43		+51	
Vietnam	77		na		118	
Other South-East Asia	91		*66		83	
China	72	+149	*58	+53	89	121
Other north-east Asia	111		*32		108	
India	107		79		82	
Other south Asia	120		na		69	
New Zealand	110	87	109	96	110	62
USA	*154		79		94	
All other countries	92		92		81	

* Significantly different from total Australia at the 5% level.

+ Significantly different from the Australian-born at the 5% level.

na = not available.

See Chapter 8 regarding the National Heart Foundation 1989 Risk Factor Prevalence Survey.

(a) This variable refers to lack of physical activity in the NHF 1989 Risk Factor Prevalence Survey.

Table 7.21: *Comparison of the ABS 1989–90 National Health Survey (A) and the NHF 1989 Risk Factor Prevalence Survey (B) with respect to age-standardised ratios relating to lifestyle among each birthplace population in Australia, females, ages 15–74 and 20–69 years, respectively*

Birthplace	Exercise[a]		Overweight		Current smoker	
	A	B	A	B	A	B
Australia	*104	100	99	100	103	100
United Kingdom & Ireland	*111	87	*90	102	*122	106
Italy	*44		*130		*50	
Greece	*40		*149		*61	
Malta	*40	+217	*140	+170	89	+65
Yugoslavia	*41		*152		87	
Other southern Europe	67		*160		*55	
Germany	80		118		119	
Netherlands	96	84	99	116	103	113
Other western Europe	93		na		90	
Poland	99		118		117	
Other north-east Europe, USSR & Baltic States	116	112	123	107	95	108
Middle East & North Africa	*53	+164	*146	+188	107	74
Malaysia	108		*47		na	
Vietnam	*61		na		na	
Other South-East Asia	79		*79		*42	
China	84	+205	67	+67	na	+38
Other north-east Asia	*68		*30		*13	
India	98		*69		*44	
Other south Asia	na		na		na	
New Zealand	102	65	90	82	*140	83
USA	*147		na		*28	
All other countries	108		88		83	

* Significantly different from total Australia at the 5% level.

+ Significantly different from the Australian-born at the 5% level.

na = not available.

See Chapter 8 regarding the National Heart Foundation 1989 Risk Factor Prevalence Survey.

(a) This variable refers to lack of physical activity in the NHF 1989 Risk Factor Prevalence Survey.

Table 7.22: *Age-standardised ratios of the proportions of males with a given chronic illness, by broad age groups, ages 15–74 years, ABS 1989–90 National Health Survey*

	Birthplace					
Chronic Illness	Australia	UK & Ireland	Overseas minus UK & Ireland	Italy	Greece	Total Overseas
Infectious and parasitic diseases	104	136	*66	na	na	90
Neoplasms	*123	*62	*44	na	na	*51
Endocrine, nutritional and metabolic and immunity disorders	105	*82	95	126	83	*91
Diseases of blood and blood-forming organs	116	na	na	na	na	58
Mental disorders	104	80	95	na	na	90
Diseases of the nervous system and sense organs	101	*110	*92	*81	*73	98
Diseases of the circulatory system	*105	96	*86	89	*67	*90
Diseases of the respiratory system	*104	*113	*75	*75	*68	*88
Diseases of the digestive system	102	106	89	96	78	95
Diseases of the genitourinary system	104	88	93	na	na	91
Complications of pregnancy, childbirth & puerperium	–	–	–	–	–	–
Diseases of the skin and subcutaneous tissue	*108	108	*63	*54	na	*78
Diseases of the musculoskeletal system and connective tissue	*104	94	*88	97	88	*90
Symptoms, signs and ill-defined conditions	102	85	99	79	na	94
Injury and poisoning	109	86	*66	na	na	*72
Disability NEC	102	118	81	na	na	94

* Significantly different from total Australia at the 5% level.

na = not available.

Table 7.23: *Age-standardised ratios of the proportions of females with a given chronic illness, by broad age groups, ages 15–74 years, ABS 1989–90 National Health Survey*

Chronic Illness	Birthplace					
	Australia	UK & Ireland	Overseas minus UK & Ireland	Italy	Greece	Total Overseas
Infectious and parasitic diseases	99	142	84	na	na	103
Neoplasms	110	101	*61	na	na	*75
Endocrine, nutritional and metabolic and immunity disorders	100	105	99	116	93	101
Diseases of blood and blood-forming organs	93	*168	96	na	na	120
Mental disorders	101	78	109	na	na	98
Diseases of the nervous system and sense organs	101	*115	*88	*76	*76	97
Diseases of the circulatory system	102	103	*89	96	108	94
Diseases of the respiratory system	*107	96	*72	*57	*65	*80
Diseases of the digestive system	102	111	88	*142	105	96
Diseases of the genitourinary system	100	*135	*82	107	na	100
Complications of pregnancy, childbirth & puerperium	102	na	na	na	na	na
Diseases of the skin and subcutaneous tissue	106	100	*73	*42	na	*82
Diseases of the musculoskeletal system and connective tissue	101	104	*93	113	106	97
Symptoms, signs and ill-defined conditions	96	91	*123	*188	na	*113
Injury and poisoning	105	107	73	na	na	84
Disability NEC	97	na	86	na	na	108

* Significantly different from total Australia at the 5% level.

na = not available.

Table 7.24: *Age-standardised ratios of the proportions reporting chronic illness among each birthplace population in Australia, males, ages 15-74 years, ABS 1989–90 National Health Survey*

Birthplace	Endocrine etc.	Circ. system	Resp. system	Digest. system	Musc. system
Australia	105	*105	*104	102	*104
United Kingdom & Ireland	*82	96	*113	106	94
Italy	126	*89	*75	96	97
Greece	83	*67	*68	78	*88
Malta	na	130	65	na	100
Yugoslavia	*58	*73	*52	111	95
Other southern Europe	na	na	65	na	92
Germany	75	112	67	na	*119
Netherlands	52	*71	69	na	102
Other western Europe	na	108	*44	na	97
Poland	na	128	56	na	84
Other north-east Europe, USSR & Baltic States	93	*80	77	*51	*111
Middle East & North Africa	*158	113	*61	121	*83
Malaysia	na	na	138	na	*48
Vietnam	na	na	90	na	*37
Other South-East Asia	na	78	76	na	*59
China	na	na	72	na	*45
Other north-east Asia	na	na	81	na	*63
India	na	*50	91	na	82
Other south Asia	na	na	na	na	59
USA	na	na	na	na	123
New Zealand	*52	89	79	121	94
All other countries	132	97	*48	*179	*74

* Significantly different from total Australia at the 5% level.

na = not available.

Table 7.25: *Age-standardised ratios of the proportions reporting chronic illness among each birthplace population in Australia, females, ages 15–74 years, ABS 1989–90 National Health Survey*

Birthplace	Endocrine etc.	Circ. system	Resp. system	Digest. system	Musc. system
Australia	100	102	*107	102	101
United Kingdom & Ireland	105	103	96	111	104
Italy	116	96	*57	*142	113
Greece	93	108	*63	105	106
Malta	na	68	85	69	74
Yugoslavia	92	68	*53	110	116
Other southern Europe	na	na	*44	na	77
Germany	67	77	73	na	96
Netherlands	na	104	86	na	104
Other western Europe	na	na	89	na	*59
Poland	na	109	62	na	95
Other north-east Europe, USSR & Baltic States	135	115	74	120	112
Middle East & North Africa	90	*64	*49	62	105
Malaysia	na	na	111	na	70
Vietnam	na	na	84	na	*54
Other South-East Asia	81	70	*71	56	*73
China	na	64	57	na	*30
Other north-east Asia	na	*43	*37	na	*32
India	na	77	70	na	78
Other south Asia	na	na	na	na	80
USA	na	na	na	na	145
New Zealand	107	105	96	68	93
All other countries	139	91	92	69	89

* Significantly different from total Australia at the 5% level.

na = not available.

Figure 7.1: *Distribution of men and women aged 35–54 years from each birthplace over the ages 35–44 and 45–54 years, ABS 1989–90 National Health Survey*

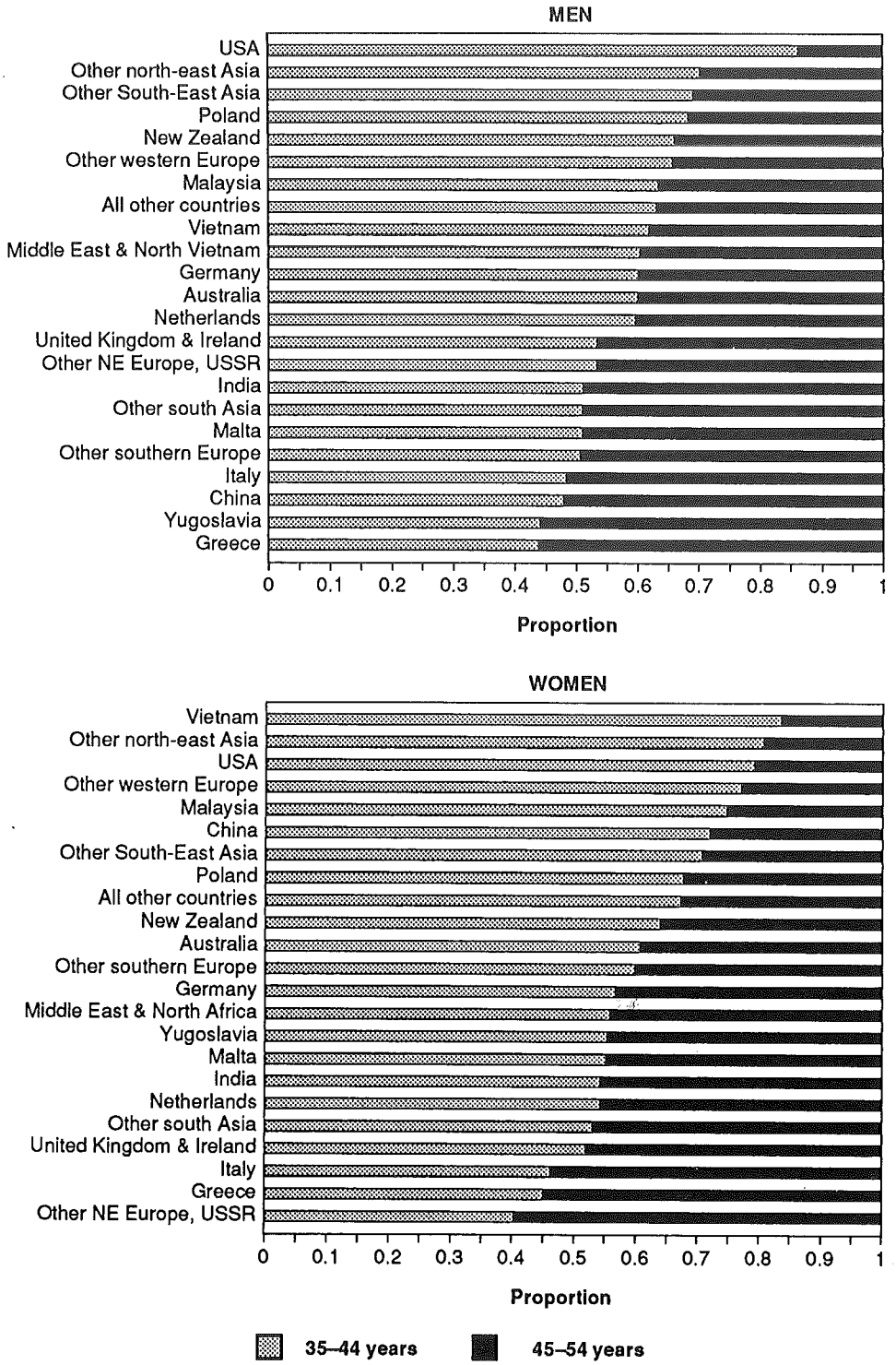
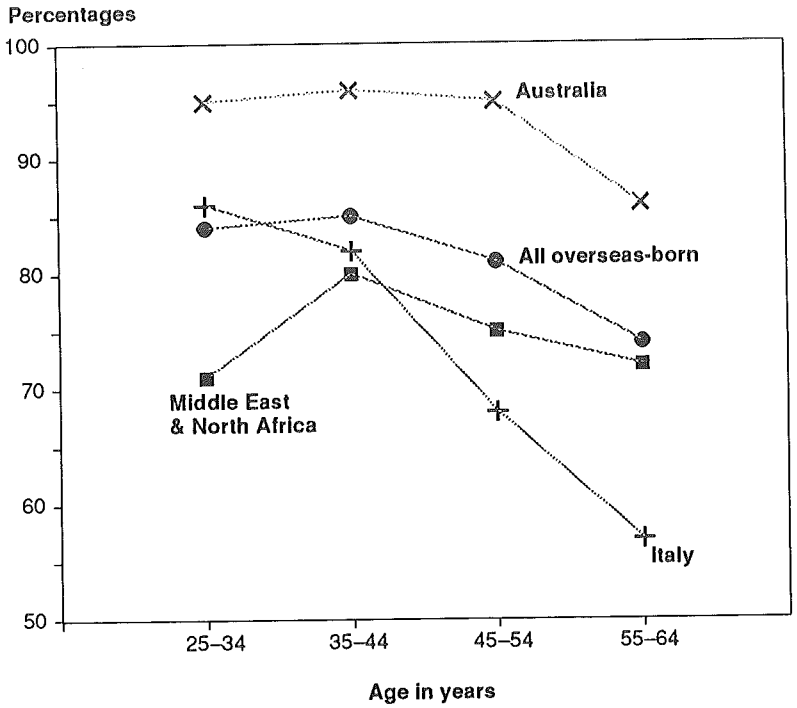


Figure 7.2: *Proportion of women who have ever had a Pap test, for selected birthplaces, ABS 1989–90 National Health Survey*



The age pattern for Australia is typical of that for United Kingdom & Ireland, Malta, Germany, Netherlands, USA and New Zealand.

The steep decline with age for Italy is typical of that for Greece, Yugoslavia and Poland.

The increase from ages 25–34 to 35–44 years for Middle Eastern women is typical of the trend for women from Malaysia, Vietnam, and India.

Figure 7.3: *Age-standardised ratios of women aged 18–64 years having a Pap test, from each birthplace, ABS 1989–90 National Health Survey*

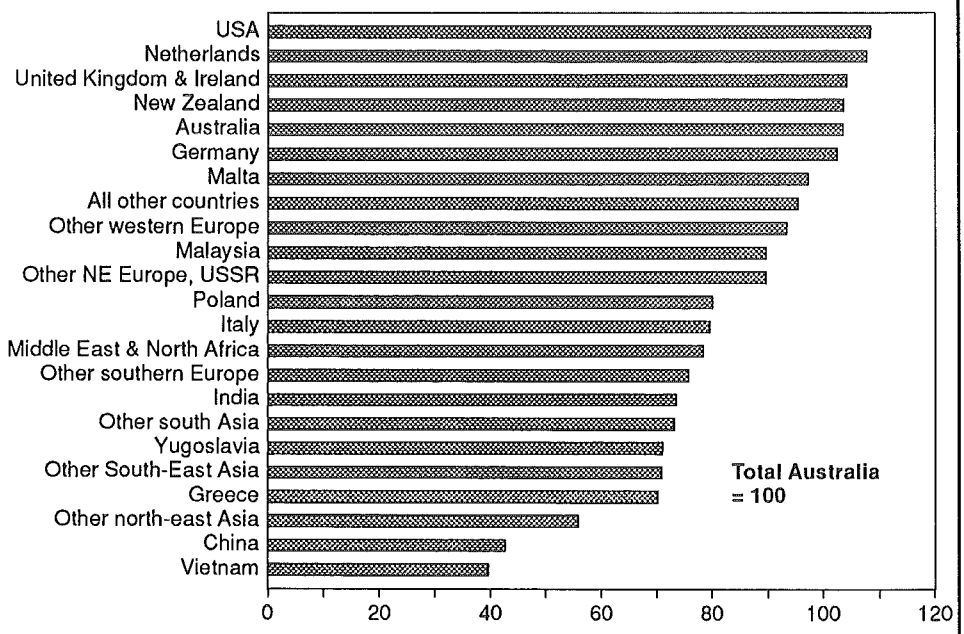
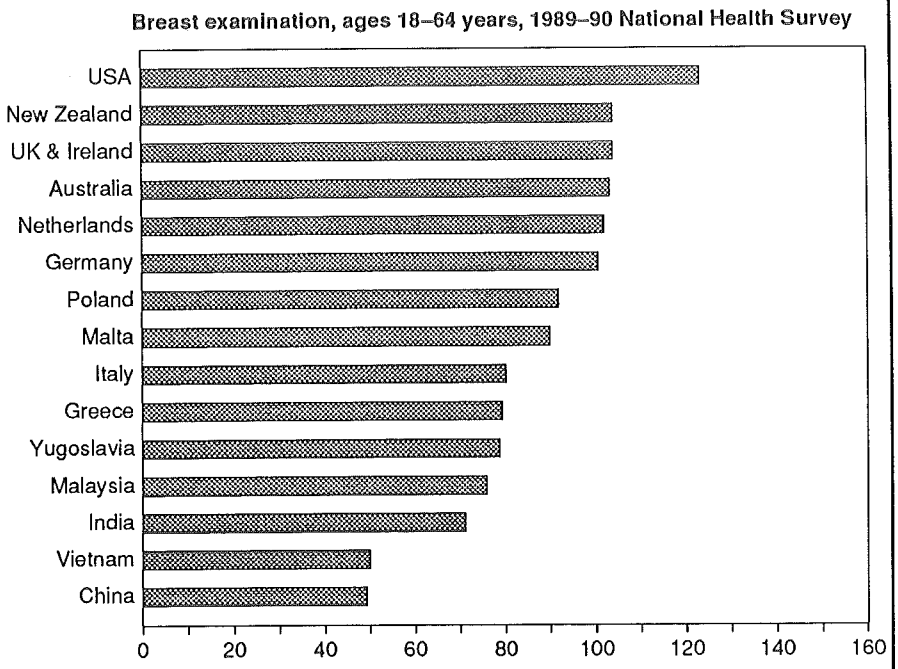


Figure 7.4: *Age-standardised ratios of women from selected birthplaces with regard to breast examination and mortality from breast cancer*



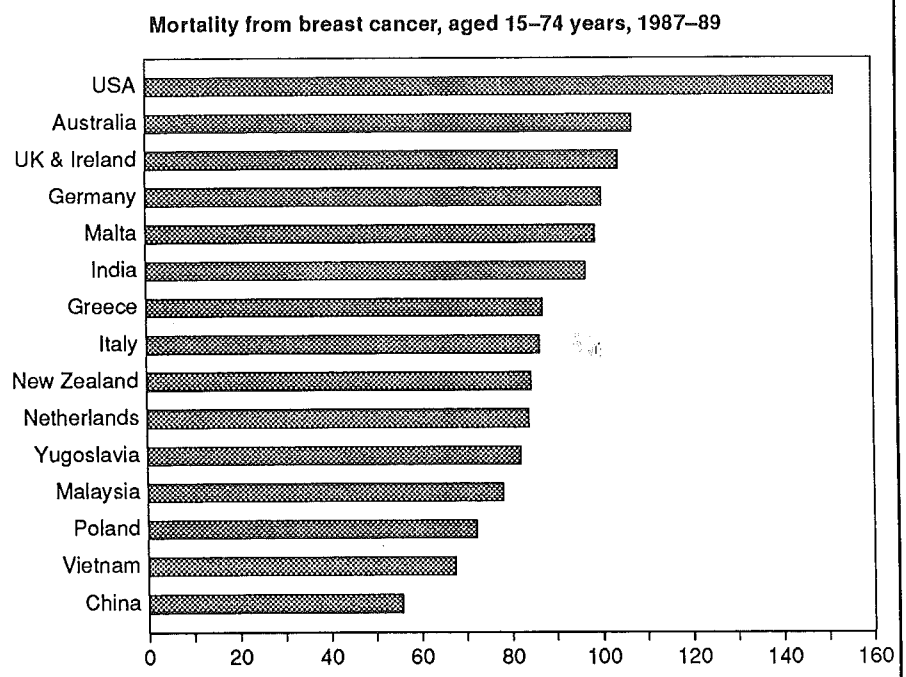


Figure 7.5: *Age standardised ratios of women from each birthplace having a Pap test and a breast examination, ABS 1989–90 National Health Survey*

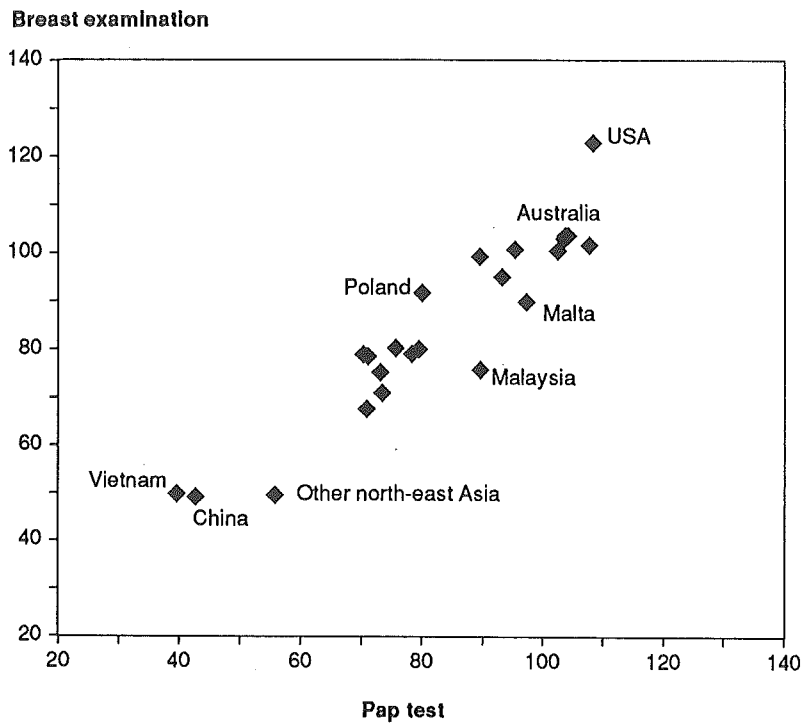


Figure 7.6: *Age-standardised ratios of women from each birthplace having a breast examination (ages 18–64 years) and standardised mortality ratios from breast cancer (ages 15–74 years)*

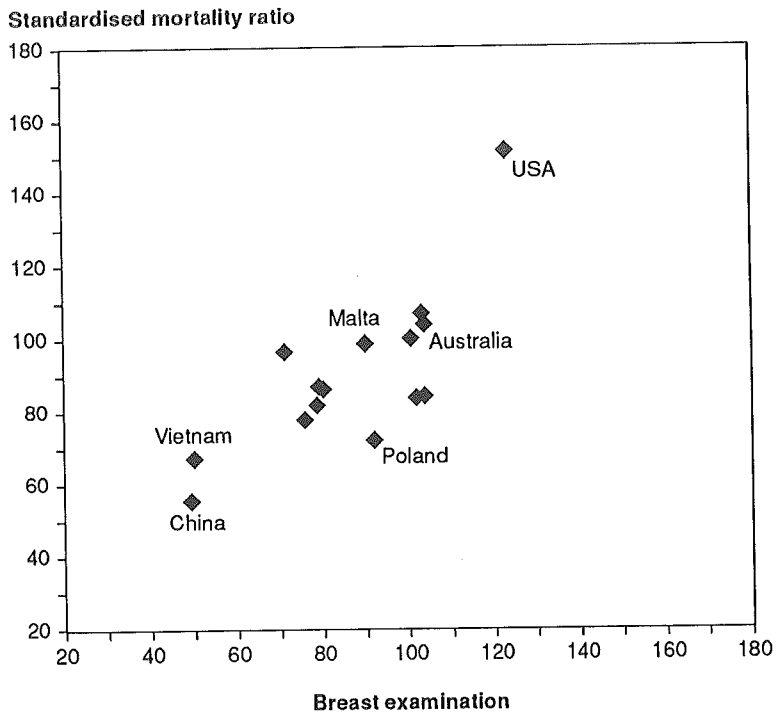
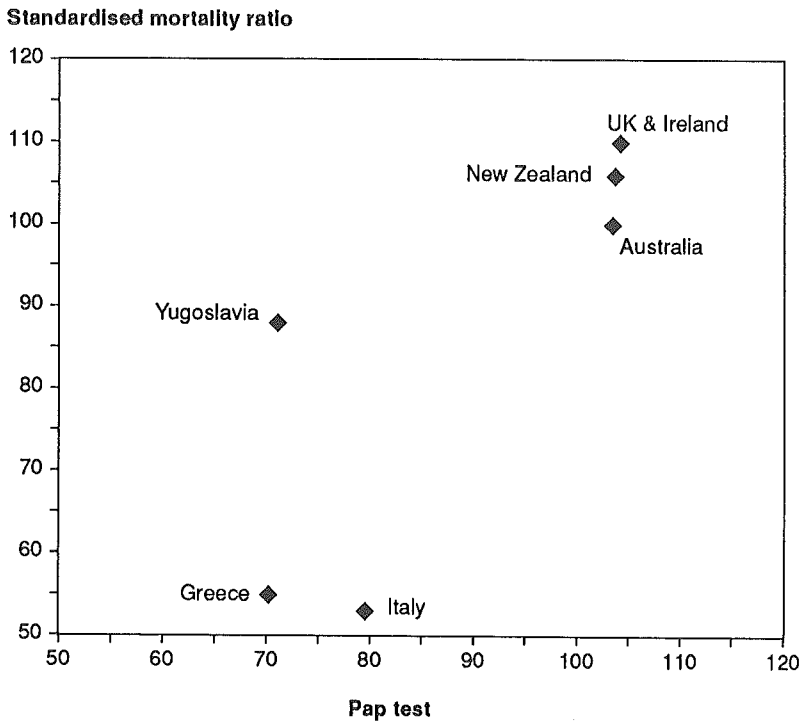
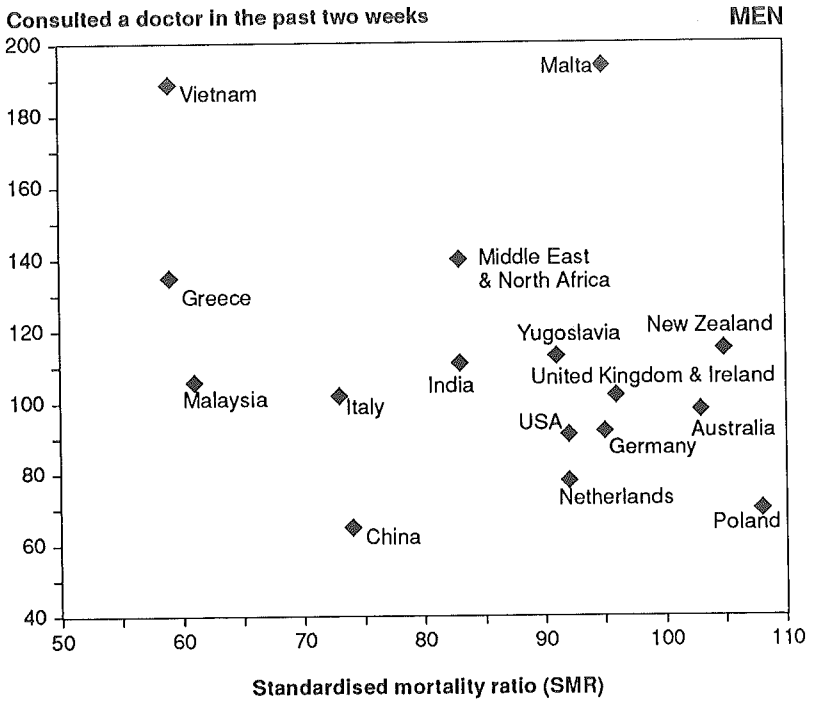


Figure 7.7: *Age-standardised ratios of women from selected birthplaces having a Pap test (ages 18–64 years) and standardised mortality ratios from malignant neoplasms of the genitourinary system (ages 15–74 years)*



Source: ABS 1989–90 National Health Survey, and death registrations 1980–82

Figure 7.8: *Age-standardised ratios of proportions who consulted a doctor compared with standardised mortality ratios, ages 15–74 years, ABS 1989–90 National Health Survey and 1987–89 mortality data*



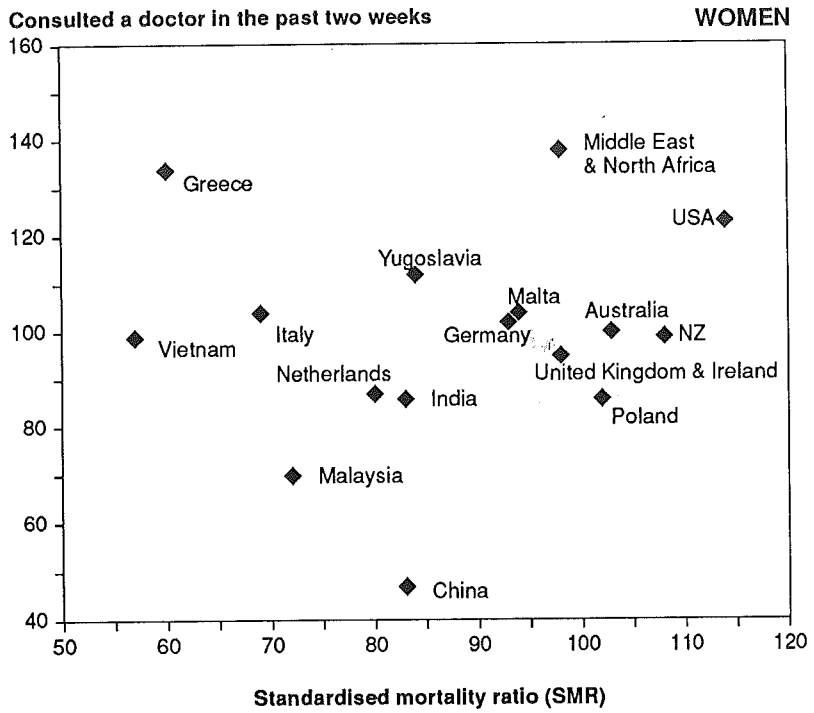


Figure 7.9: *Proportions of men and women aged 35–54 years taking pain relievers during the past two weeks, taking prescribed pain relievers and taking pain relievers more than once per week, by birthplace, ABS 1989–90 National Health Survey*

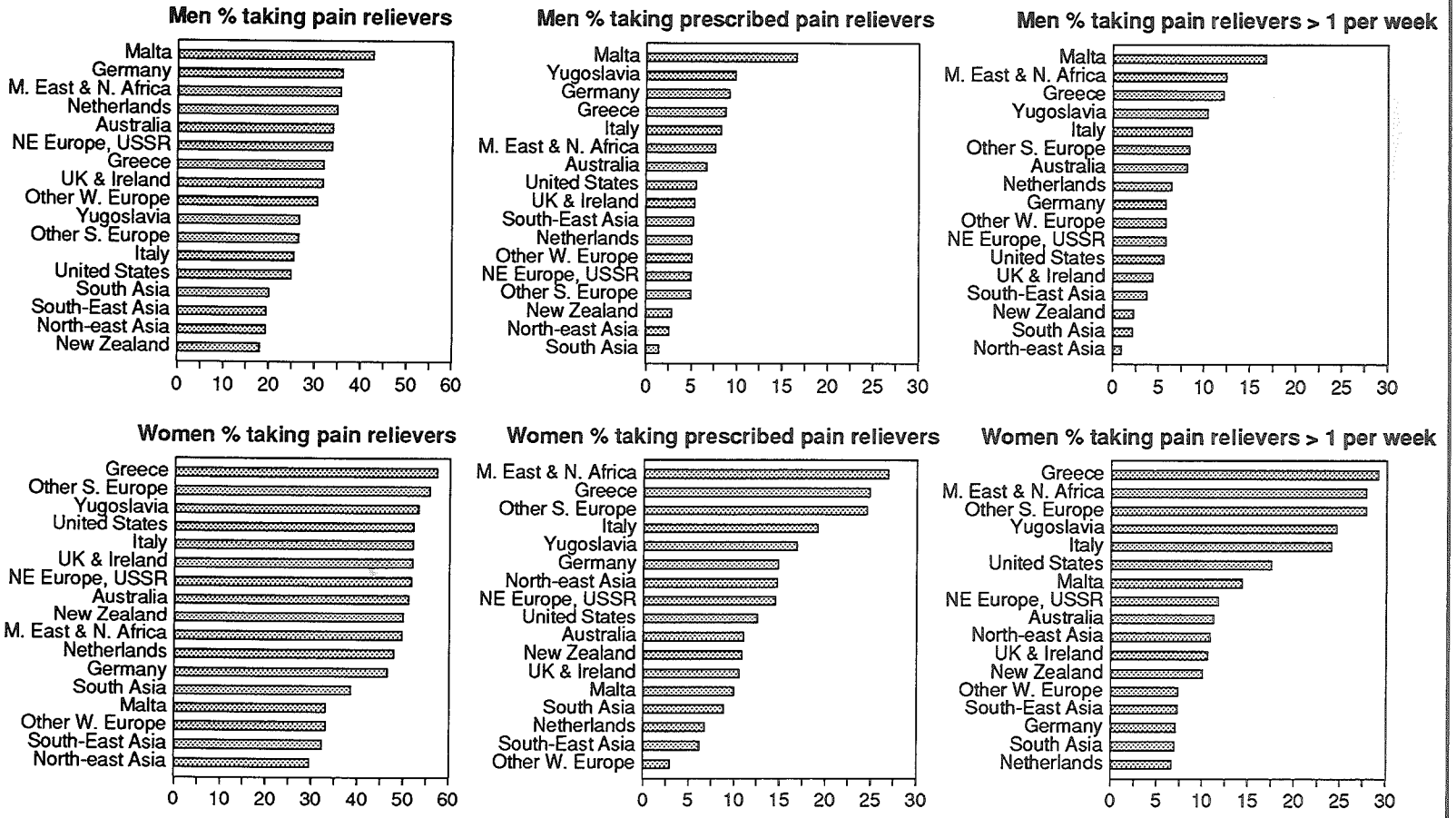
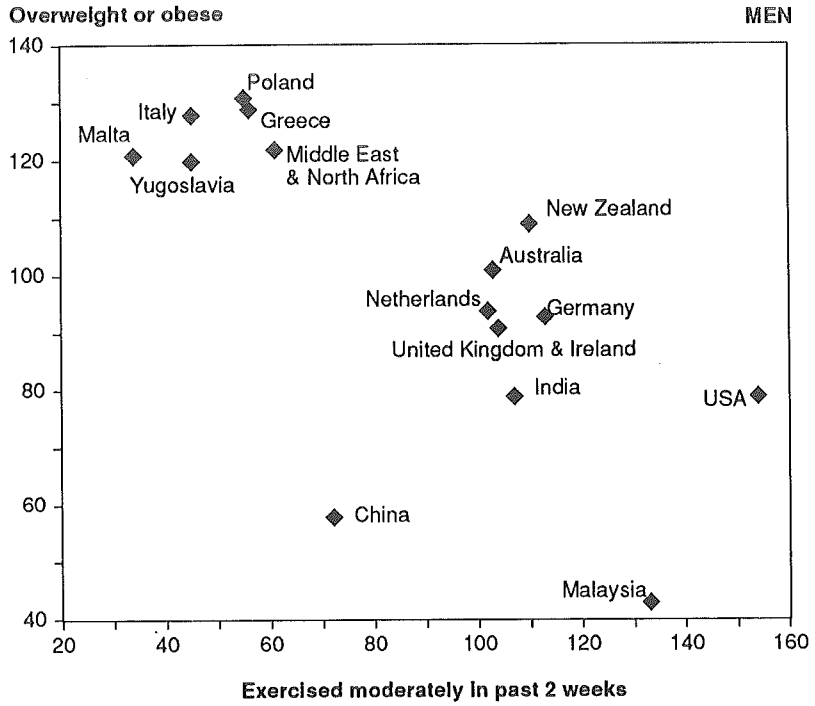


Figure 7.10: *Age-standardised ratios of proportions who are overweight or obese compared with proportions who exercised moderately, ABS 1989–90 National Health Survey*



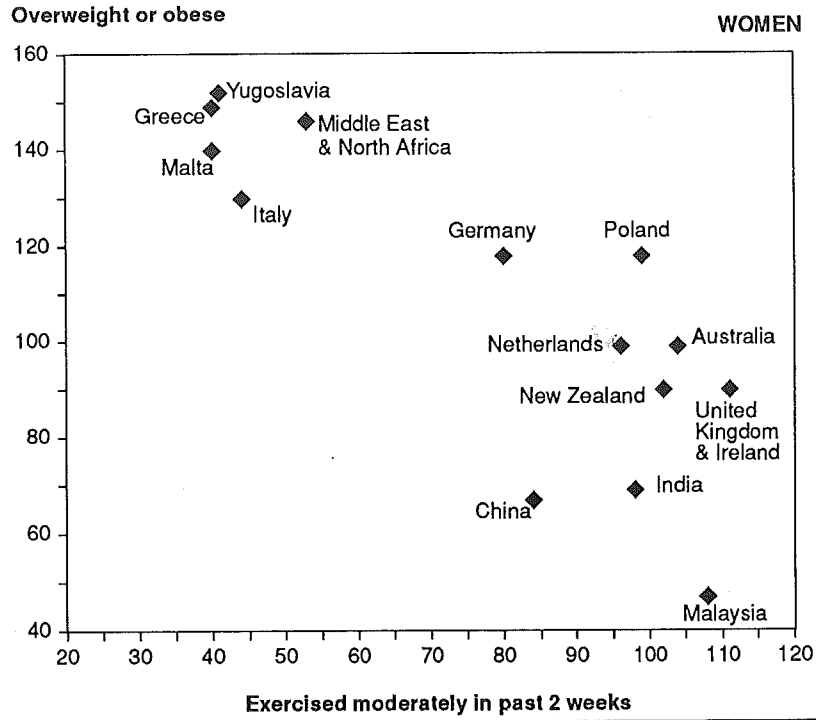


Figure 7.11: *Proportion of men aged 35–54 years from each birthplace who ever smoked, according to whether a current heavy or light smoker, or an ex-smoker, ABS 1989–90 National Health Survey*

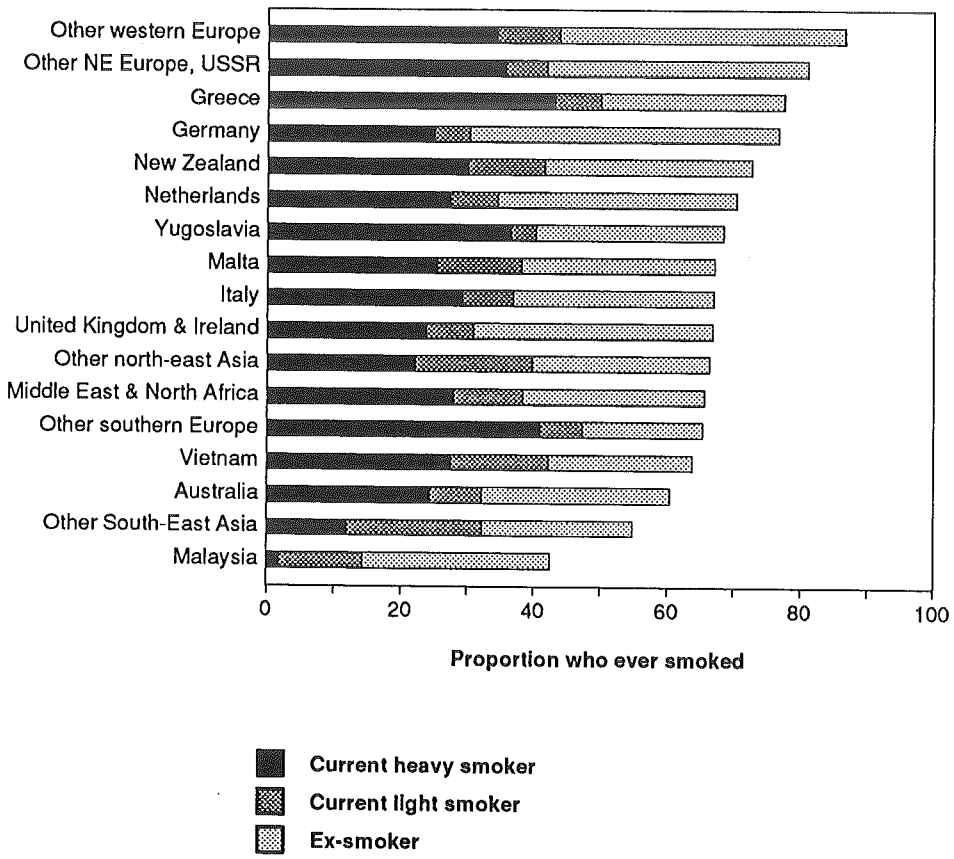
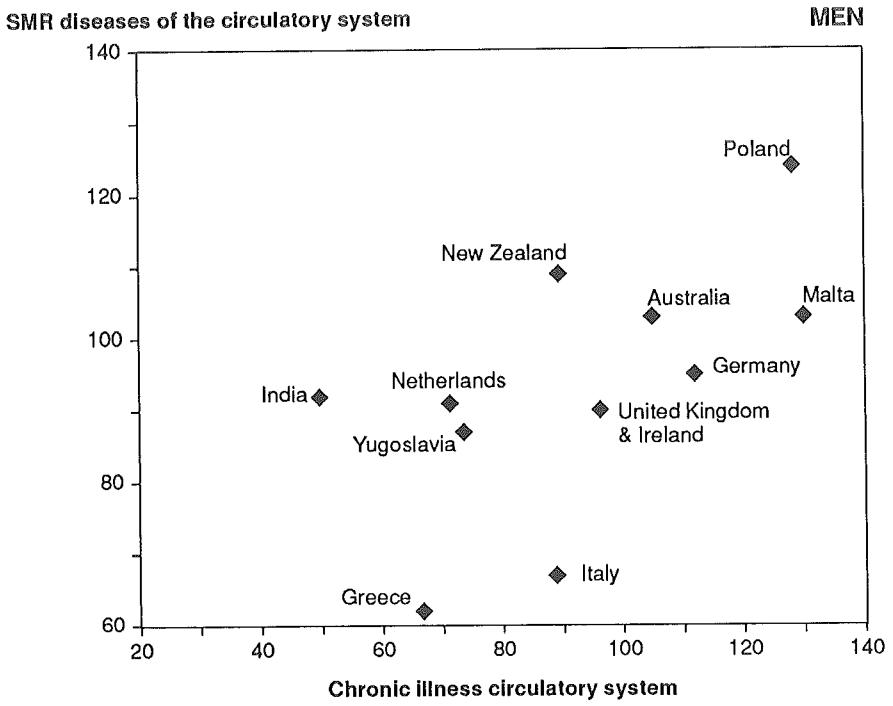


Figure 7.12: *Age-standardised proportions with chronic illness of the circulatory system compared with standardised mortality rates for that cause of death, aged 15–74 years, ABS 1989–90 National Health Survey and 1987–89 mortality data*



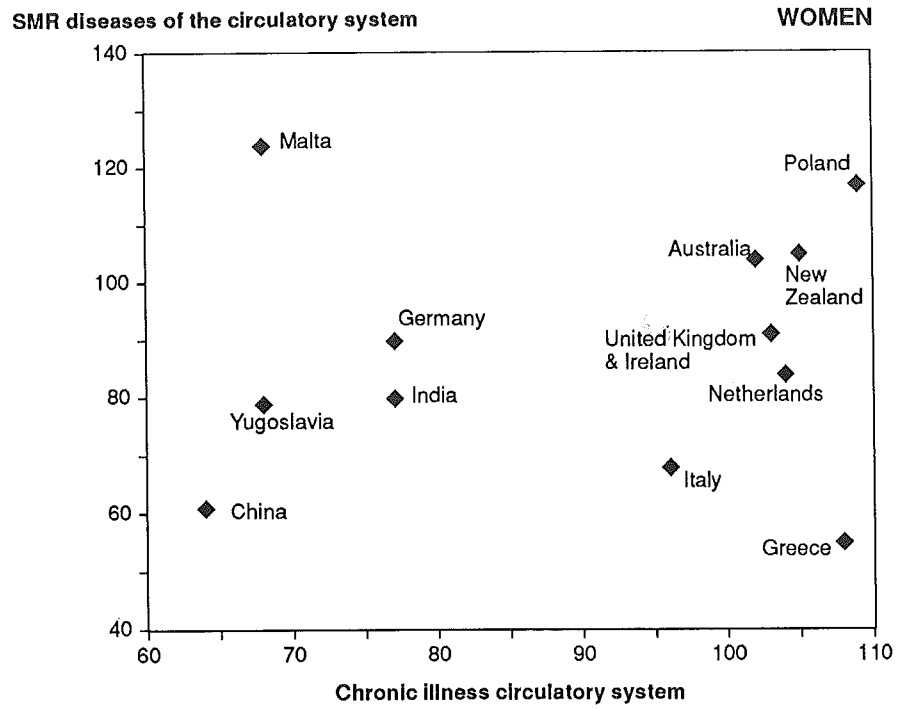
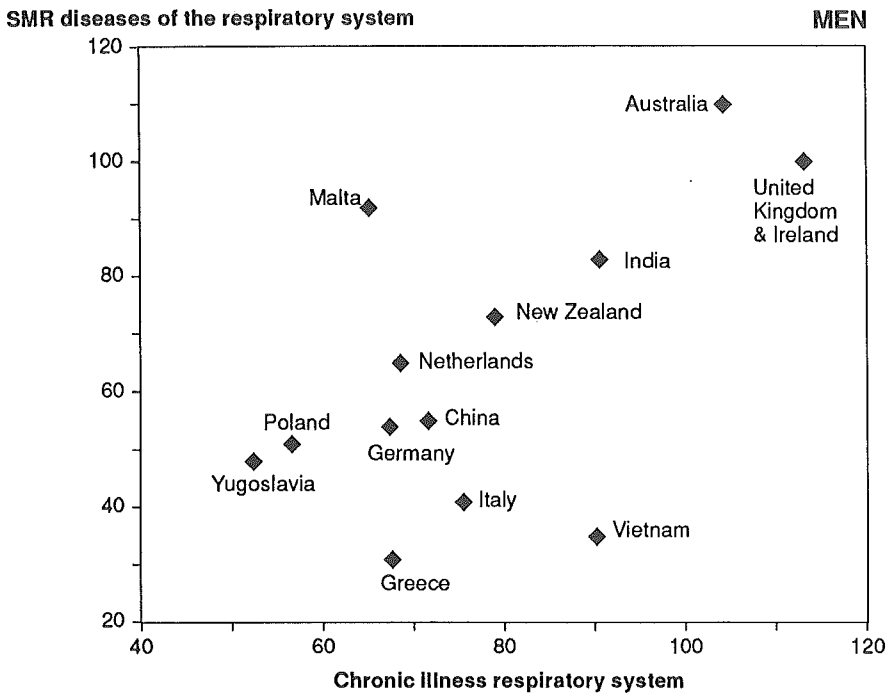


Figure 7.13: *Age-standardised proportions with chronic illness of the respiratory system compared with standardised mortality rates for that cause of death, aged 15–74 years, ABS 1989–90 National Health Survey and 1987–89 mortality data*



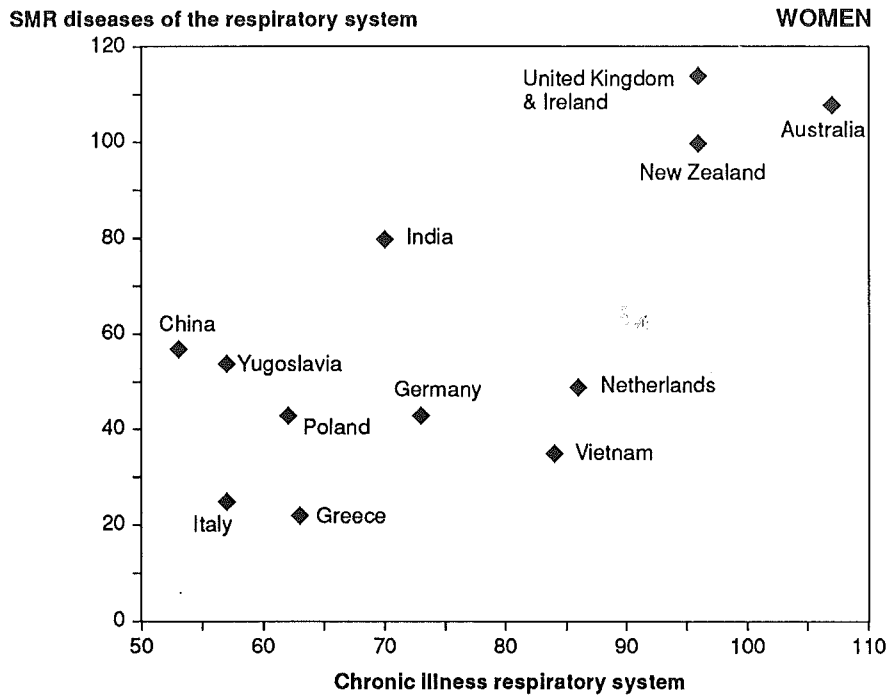
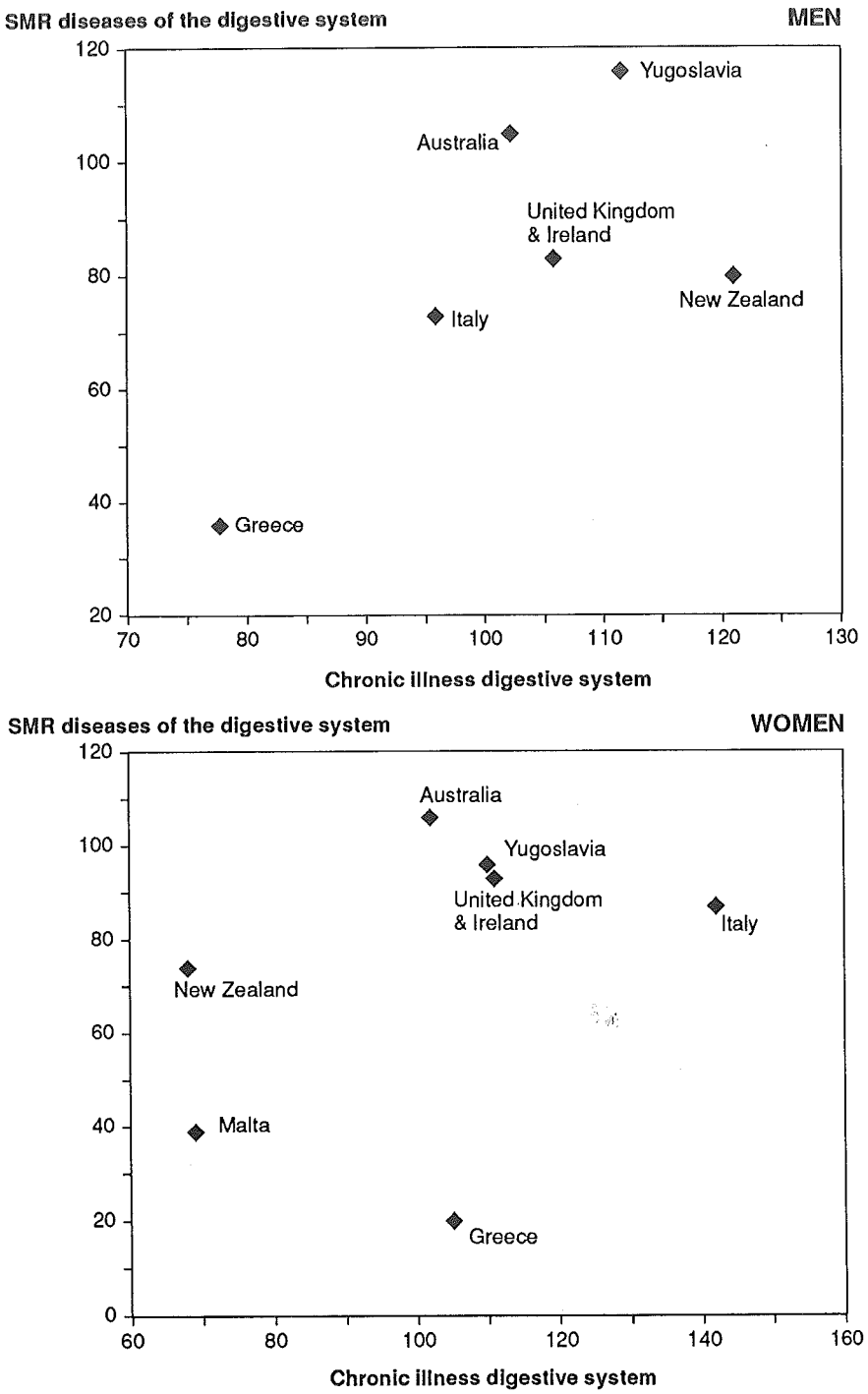


Figure 7.14 *Age-standardised proportions with chronic illness of the digestive system compared with standardised mortality rates for that cause of death, aged 15–74 years, ABS 1989–90 National Health Survey and 1987–89 mortality data*



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8 Risk factor differentials among immigrant groups

Stan Bennett

8.1 Introduction

Although one might expect immigrant group differentials in morbidity and mortality to be influenced by differences in risk factor prevalence, there have been few investigations of risk factor differentials in immigrant groups in Australia. As noted earlier (Chapter 4), studies of the health status of immigrants have tended to focus on mortality differentials for broad causes, a specific cause of death, a specific immigrant group, or a specific risk factor (see for example Dunt 1982, Young 1986; McMichael 1983; Armstrong et al. 1983; English and Bennett 1985). The purpose of this chapter is to describe the prevalence of risk factors among immigrant groups in Australia using native-born Australians as a reference group. Variation in risk factor levels by period of residence in Australia is also examined for immigrants as a whole.

The data for this analysis have been provided by the National Heart Foundation's third risk factor prevalence survey conducted in 1989. Over 9,000 Australians living in the capital cities participated in this survey, providing a recent source of risk factor data on immigrants. The survey concentrated on risk factors known to be associated with coronary heart disease (CHD), however risk factors for CHD are also known to be risk factors for many other diseases.

8.2 Overview of survey methods

The methodology of the 1989 risk factor survey has been described in detail elsewhere (Risk Factor Prevalence Study Management Committee 1990). A probability sample of adults aged 20–69 was selected from defined catchment areas within each of the eight State and Territory capital cities based on electoral roll information as at 31 December 1988. The standard sample size was 1500 for each of the nine catchment areas (two areas in Sydney), although some variation occurred to accommodate local requirements.

Prospective participants were mailed invitations with a specific appointment time to attend the local survey centre for a free check of heart disease risk factors. Instructions for 12-hour fasting and other preparations for the visit were given. A card explaining the purpose of the survey in 11 foreign languages was also included to assist those who could not read English. Where possible, a reminder telephone call was made the day before the appointment and those failing to attend were approached again by telephone or mail. Every effort was made to encourage attendance by using follow-up telephone calls, reminder letters, home visits, opening outside normal working hours and establishing temporary clinics in areas of high non-response. The overall response rate was 75 per cent.

Those attending completed a self-administered questionnaire before referral to a nursing sister for physical measurements. Procedures were standardised and every

effort was made to promote uniform methods between survey centres. All centres were visited and trained in the study protocol, procedures and measuring techniques. Adherence to the study protocol was monitored, once data collection began, by regular contact with each centre. Questionnaires and blood analysis forms were sent to the (then) Australian Institute of Health for processing and analysis.

Measurement and definition of risk factors

This analysis focuses on differences among immigrant groups in the prevalence of five major risk factors for CHD namely:

- high blood pressure
- raised total cholesterol
- cigarette smoking
- overweight or obesity
- physical inactivity.

Blood pressure

Two systolic and diastolic blood pressure readings were taken from the right arm, five minutes apart. Participants were classified as hypertensive if they were taking tablets for blood pressure and/or their systolic blood pressure was 160 mmHg or more and/or their diastolic blood pressure was 95 mmHg or more.

The risk factor measures used in this analysis were mean systolic blood pressure (SBP), mean diastolic blood pressure (DBP), and proportion of hypertensives.

Total cholesterol

A blood sample was taken with participants seated, after which fasting status was determined by asking whether anything had been eaten or drunk in the previous twelve hours apart from water, black tea or black coffee. The blood specimens were analysed for plasma total cholesterol (TC), high density lipoprotein cholesterol (HDL) and triglyceride, at the Institute of Medical and Veterinary Science in Adelaide.

The risk factor measures used in this analysis were mean total cholesterol and raised total cholesterol defined as 6.5 mmol/L or more. Women taking oral contraceptive pills were excluded from the analysis.

Smoking

Data on smoking were obtained from the questionnaire and participants were classified as cigarette smokers, cigar and/or pipe smokers (and not cigarettes), ex-smokers and people who had never smoked regularly.

This analysis used the proportion of current cigarette smokers as the risk factor measure.

Weight for height

Height and weight were measured to a standard protocol by a nursing sister. Estimates of overweight and obesity were based on Quetelet's body mass index (BMI), which is weight (in kilograms) divided by the square of height (in metres). In the calculation of BMI, 1 kg was deducted from the measured weight as an allowance for weight of clothing. Pregnant women were excluded from the calculations. Overweight has been defined as 25<BMI 30; and obesity as BMI>30 (National Health and Medical Research Council 1984, 1985).

This analysis has used mean body mass index and the proportion overweight or obese as risk factor measures.

Physical inactivity

Respondents were asked about exercise taken for recreation, sport or health fitness purposes in the previous two weeks. This included vigorous exercise (defined as causing breathlessness, puffing and panting), less vigorous exercise and walking. The present analysis used the prevalence of individuals who reported no leisure-time exercise of any kind as an indicator of risk. No account was taken of exercise at work.

Definition of immigrant group and period of residence

The questionnaire included the question 'Where were you born?', and respondents were asked to write State or Territory if born in Australia, or country if born overseas. Responses have been been coded to the Australian Standard Classification of Countries for Social Statistics (Australian Bureau of Statistics 1990).

In an earlier chapter, Young commented on the diversity of immigrant groups represented in the Australian population. The 1989 risk factor prevalence survey was not specifically designed to oversample immigrants, hence the sample contains immigrant groups in approximately representative proportions (Table 8.1). This meant that the number of respondents was small for many individual countries and regions of birth, and further aggregation was necessary in order to provide reasonable sample sizes for the analysis.

The classification of immigrant groups used in this analysis is given in Table 8.2. The 'Other' category comprised 'other Oceania', 'the Americas', and 'other Africa', and has been excluded from the analysis because of its heterogeneous mix of countries and relatively small sample size.

In addition to reporting country of birth, respondents born overseas were also asked how many years they had lived in Australia. The distribution of period of residence was such that the shortest time period that could be considered in the analysis was 10 years or less (Table 8.3).

Method of analysis

The analysis recognises that differences in disease experience between immigrant groups could be due to differences in mean levels of risk factors or differences in distribution. Thus, wherever possible, this analysis has considered mean risk factor levels as well as the prevalence of extreme values (high risk groups).

For continuous variables, inequalities between immigrant groups were examined by analysis of covariance, with age and city as independent factors in the model. Age was treated as a continuous covariate. The city effect represented the eight State and Territory capital cities, and was included to allow for the sample design. The analysis was performed using the General Linear Modelling (GLM) procedure in the Statistical Analysis System (SAS) software package, version 6. The tables give, for each immigrant group, the adjusted mean, its standard error, and the probability of the observed difference (from the native-born Australian mean) occurring if the real difference was zero. Low probabilities (less than 0.05) are considered as statistically significant and may suggest a real difference between means. A non-significant difference, however, may well reflect the small sample size for some immigrant groups and hence low statistical power to detect a real difference if it in fact exists.

The analysis of categorical variables was conducted using multiple logistic regression in the SAS CATMOD procedure. The age range 20 to 69 was divided into 5, 10-year age groups and included in the model as a factor. Given the small sample size for some immigrant groups, adjustment for city in addition to age was not feasible. The analysis for hypertension was restricted to age groups in the range 30–69, because prevalence was very low in the youngest age group and this presented difficulties in model fitting.

Men and women have been considered independently in the analysis.

8.3 Results

Blood pressure

All subjects were included in the analysis, whether or not on treatment for hypertension. After adjusting for age, average levels of systolic blood pressure (SBP) were lower in Asian immigrants than their Australian-born counterparts, and also lower in immigrants from the United Kingdom & Ireland (Table 8.4). After adjusting for BMI in addition to age (results not shown), mean SBP was 2.2 mmHg lower for both southern European men ($p < .05$) and for southern European women ($p < .05$) than their Australian-born equivalents. Adjusting for BMI also partially explained the lower SBP levels in immigrants from United Kingdom & Ireland but the differences remained statistically significant (men 1.6 mmHg, $p < .05$; women 1.8 mmHg, $p < .05$). The difference in mean SBP between Asian men and Australian-born men was reduced after adjustment for BMI but remained statistically significant (2.5 mmHg, $p < .05$). For Asian women, however, the difference (1.7 mmHg) was not statistically significant. The results also show that immigrants who had been living in Australia for 10 years or less had lower SBP than immigrants who had lived in Australia longer, and both groups had a lower level than native-born Australians.

Table 8.5 shows that, after adjusting for age, none of the immigrant groups had mean DBP levels which were noticeably different to those for men and women born in Australia. Further adjustment for BMI did reveal a statistically significantly lower SBP among southern European men (1.6 mmHg, $p < .05$). The data suggest that the mean DBP among women immigrants who had been in Australia for 10 years or less was lower than that for immigrants who had been in Australia for longer. No such difference was observed among men.

The prevalence of hypertension (Table 8.6) among women from UK & Ireland (10.3%) was statistically significantly lower than that for women born in Australia (15.0%, p=.01). The estimates for men and women suggest that the prevalence of hypertension increased with period of residence in Australia.

Total cholesterol

The data in Table 8.7 suggest that the average level of TC was higher among women immigrants from UK & Ireland (5.67 mmol/L) than women born in Australia (5.49 mmol/L). No other comparisons were statistically significant.

There is the suggestion (p=.06) that high total cholesterol may have been more common in men from western Europe (25%), but otherwise all comparisons were not statistically significant (Table 8.8).

Cigarette smoking

Men from southern Europe had a significantly higher prevalence of cigarette smoking (37%) than men born in Australia (24%). In contrast, women from southern Europe had a significantly lower prevalence (14%) compared with their Australian-born counterparts (21%). Cigarette smoking was relatively uncommon among Asian women. In general, cigarette smoking was more prevalent among male immigrants than men born in Australia, and less prevalent among female immigrants than Australian-born women (Table 9). The apparent increase in smoking prevalence with period of residence was not statistically significant for men or for women.

Weight for height

Relative to native-born Australians, men and women from Asia and men from UK & Ireland had, on average, a lower BMI (Table 8.10). Mean BMI was higher in men and women from southern Europe, men from Other Europe & USSR, and women from Middle East & North Africa, than their native-born Australian counterparts. Mean BMI increased with period of residence in Australia.

As to be expected, the prevalence of overweight and obesity between immigrant groups followed the same pattern as that for mean BMI. Of particular note was the marked variation, from the relatively low prevalence among Asian men and women (29% and 24% respectively), to the relatively high prevalence among men from Other Europe & USSR (78%) and women from Middle East & North Africa (68%). Overweight and obesity was much less common among more recent immigrants (Table 8.11) and increased markedly with period of residence.

Physical inactivity

Table 8.12 shows that physical inactivity was over twice as prevalent among men and women from southern Europe as their native-born Australian counterparts. Exercise was also relatively unpopular among people from Asia, Middle East & North Africa, and men from Other Europe & USSR. Physical inactivity was less common among immigrants who had been in Australia for longer but still more prevalent than among native-born Australians.

Summary profiles

New Zealand	Small sample size. The only significant difference was low SBP among women.
United Kingdom & Ireland	Low SBP and BMI among men. Low SBP and hypertension, high TC among women.
Southern Europe	High smoking prevalence, BMI and inactivity among men. Low smoking prevalence, high BMI and inactivity among women.
Western Europe	No significant differences.
Other Europe & USSR	High BMI and inactivity among men.
Middle East & North Africa	Small sample size. High inactivity among men. High BMI and inactivity among women.
Asia	Low SBP and BMI, high inactivity among men. Low SBP, smoking prevalence and BMI, high inactivity among women.

8.4 Discussion

Limitations of the analysis

Clearly, the analysis has been influenced by the survey design. For example, no oversampling was done to increase the number of immigrants in the survey. Also, using the electoral roll as the sampling frame meant that people who were ineligible to vote or who had failed to register had no chance of selection. This will have led to immigrants being under-represented in the sample, particularly recent immigrants. It is also possible that the response rate among immigrants may have been lower than among native-born Australians despite the inclusion of an explanation in 11 languages with the letter of invitation. Immigrants represent 35 per cent of the target population yet only 27 per cent of respondents (Risk Factor Prevalence Study Management Committee 1990, Appendix F).

The net effect was that some sample sizes were small even after aggregation of countries of birth into immigrant groups. This had implications for the analysis and interpretation of the results, some of which have already been discussed. It is possible also, that the very act of aggregating countries into broad regions may have masked important differences between immigrant groups. In addition, different response rates between immigrant groups may have confounded the analysis if non-respondents had a worse risk factor profile than respondents. For these reasons it is appropriate that results of the analysis be interpreted with caution.

Finally, it is important to recognise that the analysis has been based on place of birth which relates directly to immigration and does not measure ethnic affiliation.

Blood pressure

Immigrants from Asia and United Kingdom & Ireland had lower levels of SBP than native-born Australians; this is partially explained by a lower body mass index. The lower

SBP among women born in United Kingdom & Ireland translated into a lower prevalence of hypertension. This benefit was not observed for other groups with lower SBP and this may be due to statistical limitations of the analysis or may indicate different blood pressure distributions among immigrant groups.

Previous Australian studies have found lower levels among Italian immigrants. The Australian National Blood Pressure Study, which was based on a non-random volunteer sample (Ulman & Abernethy 1975), found lower SBP among Italians compared with Australian-born men and women. A study conducted in Perth (Armstrong et al. 1983) found lower SBP for Italian men. In the present analysis, there was no evidence of lower SBP among Southern European immigrants after adjustment for age only, however, a lower level of SBP was revealed after adjustment for BMI in addition to age.

Total cholesterol

An individual's total cholesterol concentration may be influenced by factors such as physical activity, alcohol consumption, use of oral contraceptives, aspects of diet such as dietary fibre and saturated fats, as well as genetic factors. These and other factors will combine to determine the total cholesterol (TC) level of a particular immigrant group.

In this analysis, there was the suggestion that TC levels may have been higher in men from western Europe and women from United Kingdom & Ireland with consequent higher prevalences of hypercholesterolemia. No difference was found between southern Europeans and native-born Australians. This is consistent with previous data which found no difference between Italian immigrants and native-born Australians in mean TC (Armstrong et al. 1983).

Cigarette smoking

Cigarette smoking is considered to be an independent risk factor for CHD, and interacts with high blood pressure and high blood cholesterol to increase overall risk. Those who stop smoking reduce their risk of heart disease appreciably (Taskforce on Cardiovascular Disease 1986).

The analysis showed marked sex differentials in cigarette smoking for immigrants from southern Europe and from Asia. Compared with their native-born Australian counterparts, southern European men were 50 per cent more likely to be cigarette smokers, and southern European women 45 per cent less likely. Armstrong et al. (1983) found the same sex pattern among Italian immigrants. Cigarette smoking was very uncommon among Asian women (8%).

Overweight or obesity

There are several measures of body fat distribution used in the literature, typically, body mass index, waist to hip ratio, waist to thigh ratio, or various skinfold measurements. These measures are known to have different properties (see for example Bjorntorp 1988, Himes 1991, Mueller 1991) and it is not known whether body mass index is the most appropriate indicator of risk for an analysis of immigrant group differentials.

Immigrant groups exposed to greatest risk from excess body fat, based on body mass index, were identified as men and women from southern Europe, men from Other

Europe & USSR, and women from Middle East & North Africa. Immigrants from southern Europe and from northern Europe have previously been similarly identified (English & Bennett 1985). Armstrong et al. (1983) found higher BMI among Italian immigrants.

Physical inactivity

Oldenburg et al. (1991) recently reviewed the evidence for health benefits of exercise and discussed the recent change in emphasis towards the benefits of less vigorous exercise. The level of physical activity recommended for protection against coronary heart disease (CHD) used to be vigorous exercise for 20–30 minutes at least three times a week. Recent research, however, suggests that there are health benefits to be gained even from low-intensity, regular, physical exercise and that the dose response relationship may well be continuous (Blair et al. 1989, deBusk et al. 1990). Indeed, the National Heart Foundation's 1991 Heart Week emphasised the benefits of walking for exercise (National Heart Foundation of Australia 1991, 1991a, 1991b, 1991c). The indicator used in this analysis, no leisure-time exercise of any kind, is consistent with these findings and implicitly considers vigorous exercise, less vigorous exercise and walking to be equally valued forms of exercise to reduce CHD risk.

This analysis has identified several immigrant groups with a relatively low level of participation in recreational physical activity. Southern Europeans, men from northern Europe, eastern Europe, the USSR and the Baltic States, immigrants from the Middle East and North Africa, and immigrants from Asia all reported significantly lower participation in recreational activity than native-born Australians. Since the prevalence of overweight and obesity was also relatively high among southern European immigrants, they may have particular benefits to gain from increased participation in recreational physical activity. As stated previously, this analysis took no account of the amount of exercise done at work.

Period of residence

Since the 1989 risk factor prevalence survey is a cross-sectional survey and not a cohort study, the analysis by period in Australia has been confounded by the risk factor profile of different cohorts of immigrants to Australia. The results will also have been influenced by the changes in the birthplace composition of immigrants' arrivals over time. With these provisos, the analysis suggests that, after adjusting for age, mean systolic blood pressure and possibly hypertension prevalence increased among immigrants as period of residence increased, as did mean body mass index and the prevalence of overweight and obesity. Increases in body fat appeared to explain at least part of the increases in SBP with acculturation. Conversely, exercise participation became more prevalent, converging to, but not reaching, the Australian-born norm.

Smoking prevalence in men was higher among newly arrived immigrants than native-born Australians and remained so. Among women, smoking prevalence increased with period of residence in Australia. There was no evidence that mean total cholesterol or the prevalence of hypercholesterolemia was different among immigrants than in native-born Australians, nor of variation with period of residence.

General

The emphasis in this analysis has been the much easier task of describing differences between immigrant groups rather than attempting to explain them. The latter is complex and beyond the scope of this analysis. Some issues are the risk factor profile of the source populations, the possible selection effect in the migration process, environmental influences after migration and the degree to which habits and customs are maintained. Such possible explanations for differential prevalence of risk factors among immigrant groups are included in the more comprehensive list which follows (adapted from Polednak 1989):

- selective migration
- age at migration
- stresses of migration
- differential access to medical care
- differential access to diagnostic facilities
- differential use of available facilities
- differences in reporting due to cultural factors
- differences in socioeconomic class and occupation
- differences in environment
- climatic differences
- nutrition or diet
- differences in personal customs or habits
- differences in acculturation
- differences in body constitution
- genetic differences.

It is clear that the causation of immigrant group differentials is complex and that the explanations for differences in risk factor profiles between immigrant groups involve interaction between social, economic, cultural, environmental, biological and genetic factors.

Nevertheless, documentation of inequalities in risk factors is an important step in the process towards the alleviation of disparities in health status between immigrant groups. Whatever the explanation for differences in risk factor levels between immigrant groups, such data can be usefully employed in planning public health programs appropriate for high risk groups.

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Table 8.1: *Sample counts by region of birth*

Region of birth	Men	Women
1 OCEANIA		
11 Australia	3234	3499
12 External territories	3	0
13 New Zealand	64	59
14 Melanesia	2	9
15 Micronesia	0	1
16 Polynesia	3	6
2 EUROPE & USSR		
21 UK & Ireland	495	436
22 Southern Europe	264	266
23 Western Europe	125	115
24 Northern Europe	11	11
25 Eastern Europe	61	56
26 USSR & Baltic States	25	20
3 MIDDLE EAST & NORTH AFRICA		
31 The Middle East	34	24
32 North Africa	22	12
4 SOUTH-EAST ASIA	90	104
5 NORTH-EAST ASIA	28	32
6 SOUTHERN ASIA	37	25
7 NORTH AMERICA	13	14
8 SOUTH AMERICA, CENTRAL AMERICA & CARIBBEAN		
81 South America	8	14
82 Central America	1	1
83 The Caribbean	1	1
9 AFRICA (excl. North Africa)		
91 Central and West Africa	2	0
92 Southern and East Africa	29	22
Missing	0	0
Total	**4552**	**4727**

Table 8.2: *Sample counts by immigrant group*

Immigrant group	Men	Women
Australia	3234	3499
New Zealand	64	59
United Kingdom & Ireland	495	436
Southern Europe[a]	264	266
Western Europe[b]	125	115
Other Europe & USSR[c]	97	87
Middle East & North Africa[d]	56	36
Asia[e]	155	161
Other	62	68
Total	**4552**	**4727**

(a) Includes Italy, Greece, Yugoslavia and Malta.
(b) Includes Germany, Netherlands and Austria.
(c) Northern Europe, eastern Europe, the USSR and the Baltic States. Includes Poland, Hungary and Czechoslovakia.
(d) Includes Lebanon, Egypt and Turkey.
(e) South-East Asia, north-east Asia and southern Asia. Includes Vietnam, India, Malaysia and China.

Table 8.3: *Sample counts by period in Australia*

Period in Australia	Men	Women
10 years or less	164	170
11 years or more	1154	1058
Australian-born	3234	3499
Total	**4552**	**4727**

Table 8.4: *Systolic blood pressure*[(a)], *20–69 years*

	Sample	Mean	SEM	Prob.
Males	(n)	(mmHg)	(mmHg)	
Immigrant group				
Australia	3233	129.9	0.3	
New Zealand	64	129.1	1.9	0.681
United Kingdom & Ireland	495	127.5	0.7	0.001
Southern Europe	264	129.1	0.9	0.372
Western Europe	125	128.9	1.4	0.468
Other Europe & USSR	97	131.1	1.5	0.445
Middle East & North Africa	56	127.1	2.0	0.160
Asia	155	125.3	1.2	0.000
Period in Australia				
Immigrants				
10 years or less	164	127.2	1.2	0.024
11 years or more	1154	128.2	0.5	0.001
Australian-born	3233	129.9	0.3	
Females				
Immigrant group				
Australia	3499	123.0	0.3	
New Zealand	59	118.3	2.0	0.018
United Kingdom & Ireland	436	120.9	0.7	0.007
Southern Europe	266	122.5	0.9	0.612
Western Europe	115	121.5	1.4	0.298
Other Europe & USSR	87	123.8	1.6	0.637
Middle East & North Africa	36	120.7	2.5	0.358
Asia	161	120.0	1.2	0.014
Period in Australia				
Immigrants				
10 years or less	170	118.9	1.2	0.001
11 years or more	1058	121.6	0.5	0.012
Australian-born	3499	123.0	0.3	

(a) The average of two readings taken 5 minutes apart.
Mean Mean adjusted for age and city.
SEM Standard error of the adjusted mean.
Prob. P value of comparison with Australian mean.

Table 8.5: *Diastolic blood pressure[(a)], 20–69 years*

	Sample	Mean	SEM	Prob.
Males	(n)	(mmHg)	(mmHg)	
Immigrant group				
Australia	3233	81.4	0.2	
New Zealand	64	80.8	1.3	0.634
United Kingdom & Ireland	495	80.6	0.5	0.132
Southern Europe	264	80.9	0.6	0.498
Western Europe	125	82.1	0.9	0.424
Other Europe & USSR	97	81.1	1.1	0.819
Middle East & North Africa	56	81.7	1.4	0.835
Asia	155	81.0	0.8	0.608
Period in Australia				
Immigrants				
10 years or less	164	81.2	0.8	0.798
11 years or more	1154	81.0	0.3	0.273
Australian-born	3233	81.4	0.2	
Females				
Immigrant group				
Australia	3499	76.0	0.2	
New Zealand	59	74.0	1.2	0.104
United Kingdom & Ireland	436	75.2	0.5	0.115
Southern Europe	266	76.6	0.6	0.282
Western Europe	115	76.5	0.9	0.563
Other Europe & USSR	87	76.3	1.0	0.728
Middle East & North Africa	36	74.3	1.6	0.300
Asia	161	74.8	0.7	0.123
Period in Australia				
Immigrants				
10 years or less	170	73.4	0.7	0.001
11 years or more	1058	75.9	0.3	0.888
Australian-born	3499	76.0	0.2	

(a) The average of two readings taken 5 minutes apart.
Mean Mean adjusted for age and city.
SEM Standard error of the adjusted mean.
Prob. P value of comparison with Australian mean.

Table 8.6: *Hypertension[(a)], 30–69 years*

	Sample	Rate	Ratio	Prob.
Males	(n)	(per cent)		
Immigrant group				
Australia	2501	22.7	1.00	
New Zealand	54	13.4	0.59	0.127
United Kingdom & Ireland	445	19.5	0.86	0.140
Southern Europe	246	19.9	0.88	0.302
Western Europe	121	20.6	0.91	0.590
Other Europe & USSR	93	17.6	0.78	0.203
Middle East & North Africa	50	19.7	0.87	0.633
Asia	118	17.0	0.75	0.186
Period in Australia				
Immigrants				
10 years or less	132	16.5	0.73	0.141
11 years or more	1048	19.3	0.85	0.031
Australian-born	2501	22.7	1.00	
Females				
Immigrant group				
Australia	2739	15.0	1.00	
New Zealand	48	10.2	0.68	0.400
United Kingdom & Ireland	376	10.3	0.69	0.010
Southern Europe	251	14.0	0.93	0.647
Western Europe	109	11.2	0.75	0.239
Other Europe & USSR	84	17.7	1.18	0.480
Middle East & North Africa	28	14.0	0.93	0.885
Asia	133	16.3	1.09	0.729
Period in Australia				
Immigrants				
10 years or less	135	11.1	0.74	0.316
11 years or more	952	13.0	0.86	0.115
Australian-born	2739	15.0	1.00	

(a) On tablets for blood pressure and/or SBP ≥ 160 mmHg and/or DBP ≥ 95 mmHg.
Rate Prevalence rate adjusted for age in four 10–year groups.
Ratio Ratio of prevalence rates, region to Australia.
Prob. P value of comparison with Australian prevalence.

Table 8.7: *Total plasma cholesterol, fasting, 20–69 years*

	Sample	Mean	SEM	Prob.
Males	(n)	(mmol/L)	(mmol/L)	
Immigrant group				
Australia	2838	5.56	0.02	
New Zealand	57	5.67	0.14	0.440
United Kingdom & Ireland	452	5.57	0.05	0.765
Southern Europe	220	5.52	0.07	0.633
Western Europe	116	5.75	0.10	0.056
Other Europe & USSR	89	5.52	0.11	0.736
Middle East & North Africa	52	5.58	0.14	0.864
Asia	142	5.54	0.09	0.841
Period in Australia				
Immigrants				
10 years or less	145	5.52	0.09	0.665
11 years or more	1036	5.58	0.03	0.503
Australian-born	2838	5.57	0.02	
Females[a]				
Immigrant group				
Australia	3115	5.49	0.03	
New Zealand	52	5.42	0.20	0.722
United Kingdom Ireland	396	5.67	0.07	0.018
Southern Europe	231	5.52	0.10	0.774
Western Europe	96	5.48	0.15	0.951
Other Europe & USSR	71	5.47	0.17	0.910
Middle East & North Africa	30	5.43	0.27	0.818
Asia	144	5.41	0.12	0.513
Period in Australia				
Immigrants				
10 years or less	151	5.38	0.12	0.381
11 years or more	933	5.55	0.05	0.224
Australian-born	3115	5.49	0.03	

(a) Excludes women taking the oral contraceptive pill.
Mean Mean adjusted for age and city.
SEM Standard error of the adjusted mean.
Prob. P value of comparison with Australian mean.

Table 8.8: *High total cholesterol[a], fasting, 20–69 years*

	Sample	Rate	Ratio	Prob.
Males	(n)	(per cent)		
Immigrant group				
Australia	2838	18.5	1.00	
New Zealand	57	18.4	1.00	0.991
United Kingdom & Ireland	452	19.1	1.03	0.761
Southern Europe	220	15.5	0.84	0.239
Western Europe	116	25.2	1.36	0.060
Other Europe & USSR	89	19.2	1.04	0.849
Middle East & North Africa	52	15.3	0.83	0.546
Asia	142	14.4	0.78	0.235
Period in Australia				
Immigrants				
10 years or less	145	16.6	0.90	0.597
11 years or more	1036	18.3	0.99	0.942
Australian-born	2838	18.4	1.00	
Females[b]				
Immigrant group				
Australia	3115	17.3	1.00	
New Zealand	52	22.3	1.29	0.399
United Kingdom & Ireland	396	20.9	1.21	0.082
Southern Europe	231	14.1	0.82	0.191
Western Europe	96	20.3	1.18	0.433
Other Europe & USSR	71	18.8	1.09	0.712
Middle East & North Africa	30	16.2	0.94	0.880
Asia	144	13.2	0.77	0.253
Period in Australia				
Immigrants				
10 years or less	151	15.3	0.89	0.598
11 years or more	933	18.0	1.04	0.610
Australian-born	3115	17.3	1.00	

(a) 6.5 mmol/L or more.
(b) Excludes women taking the oral contraceptive pill.
Rate Prevalence rate adjusted for age in five 10–year groups.
Ratio Ratio of prevalence rates, region to Australia.
Prob. P value of comparison with Australian prevalence.

Table 8.9: *Cigarette smoking, 20–69 years*

	Sample	Rate	Ratio	Prob.
Males	(n)	(per cent)		
Immigrant group				
Australia	3232	24.3	1.00	
New Zealand	64	15.1	0.62	0.090
United Kingdom & Ireland	495	28.2	1.16	0.063
Southern Europe	263	36.5	1.50	0.000
Western Europe	125	23.6	0.97	0.860
Other Europe & USSR	97	19.9	0.82	0.348
Middle East & North Africa	56	33.9	1.40	0.101
Asia	155	29.4	1.21	0.147
Period in Australia				
Immigrants				
10 years or less	164	26.6	1.09	0.511
11 years or more	1153	28.3	1.16	0.011
Australian-born	3232	24.3	1.00	
Females				
Immigrant group				
Australia	3498	21.1	1.00	
New Zealand	59	17.5	0.83	0.492
United Kingdom & Ireland	436	22.4	1.06	0.532
Southern Europe	266	13.8	0.65	0.007
Western Europe	115	23.8	1.13	0.495
Other Europe & USSR	87	22.7	1.08	0.719
Middle East & North Africa	36	15.5	0.74	0.407
Asia	161	8.0	0.38	0.000
Period in Australia				
Immigrants				
10 years or less	170	15.0	0.71	0.048
11 years or more	1058	18.4	0.87	0.061
Australian-born	3498	21.1	1.00	

Rate Prevalence rate adjusted for age in five 10–year groups.
Ratio Ratio of prevalence rates, region to Australia.
Prob. P value of comparison with Australian prevalence.

Table 8.10: *Body mass index[a], 20–69 years*

	Sample	Mean	SEM	Prob.
Males	(n)	(kg/m^2)	(kg/m^2)	
Immigrant group				
Australia	3196	25.6	0.1	
New Zealand	64	25.6	0.4	0.924
United Kingdom & Ireland	490	24.8	0.2	0.000
Southern Europe	255	26.8	0.2	0.000
Western Europe	125	25.2	0.3	0.276
Other Europe & USSR	96	26.6	0.4	0.008
Middle East & North Africa	54	25.5	0.5	0.855
Asia	155	23.5	0.3	0.000
Period in Australia				
Immigrants				
10 years or less	164	24.1	0.3	0.000
11 years or more	1137	25.4	0.1	0.193
Australian-born	3196	25.6	0.1	
Females[b]				
Immigrant group				
Australia	3385	24.5	0.1	
New Zealand	59	24.2	0.6	0.684
United Kingdom & Ireland	426	24.0	0.2	0.066
Southern Europe	257	26.5	0.3	0.000
Western Europe	113	24.8	0.4	0.465
Other Europe & USSR	85	23.9	0.5	0.272
Middle East & North Africa	34	26.5	0.8	0.013
Asia	150	23.2	0.4	0.001
Period in Australia				
Immigrants				
10 years or less	162	23.6	0.4	0.020
11 years or more	1027	24.8	0.1	0.058
Australian-born	3385	24.5	0.1	

(a) Weight (in kilograms) divided by the square of height (in metres). One kilogram was deducted from the measured weight as an allowance for weight of clothing.
(b) Excludes pregnant women.
Mean Mean adjusted for age and city.
SEM Standard error of the adjusted mean.
Prob. P value of comparison with Australian mean.

Table 8.11: *Overweight or obese[a], 20–69 years*

	Sample	Rate	Ratio	Prob.
Males	(n)	(per cent)		
Immigrant group				
Australia	3196	53.8	1.00	
New Zealand	64	51.4	0.96	0.709
United Kingdom & Ireland	490	44.5	0.83	0.000
Southern Europe	255	68.1	1.27	0.000
Western Europe	125	54.5	1.01	0.878
Other Europe & USSR	96	77.9	1.45	0.000
Middle East & North Africa	54	55.5	1.03	0.813
Asia	155	28.5	0.53	0.000
Period in Australia				
Immigrants				
10 years or less	164	37.2	0.69	0.000
11 years or more	1137	53.2	0.99	0.671
Australian-born	3196	54.0	1.00	
Females[b]				
Immigrant group				
Australia	3385	36.0	1.00	
New Zealand	59	29.5	0.82	0.327
United Kingdom & Ireland	426	36.8	1.02	0.760
Southern Europe	257	61.2	1.70	0.000
Western Europe	113	41.7	1.16	0.231
Other Europe & USSR	85	38.4	1.07	0.654
Middle East & North Africa	34	67.7	1.88	0.000
Asia	150	24.2	0.67	0.005
Period in Australia				
Immigrants				
10 years or less	162	32.6	0.90	0.397
11 years or more	1027	43.1	1.20	0.000
Australian-born	3385	36.0	1.00	

(a) BMI > 25.0.
(b) Excludes pregnant women.
Rate Prevalence rate adjusted for age in five 10–year groups.
Ratio Ratio of prevalence rates, region to Australia.
Prob. P value of comparison with Australian prevalence.

Table 8.12: *Physical inactivity*[(a)]*, 20–69 years*

	Sample	Rate	Ratio	Prob.
Males	(n)	(per cent)		
Immigrant group				
Australia	3234	22.1	1.00	
New Zealand	64	20.0	0.87	0.559
United Kingdom & Ireland	495	24.8	1.08	0.390
Southern Europe	263	52.4	2.27	0.000
Western Europe	125	29.8	1.29	0.079
Other Europe & USSR	97	39.2	1.70	0.000
Middle East & North Africa	56	48.6	2.11	0.000
Asia	155	34.4	1.49	0.002
Period in Australia				
Immigrants				
10 years or less	164	42.1	1.82	0.000
11 years or more	1153	32.3	1.40	0.000
Australian-born	3234	23.2	1.00	
Females				
Immigrant group				
Australia	3499	26.4	1.00	
New Zealand	59	17.2	0.65	0.120
United Kingdom & Ireland	436	23.0	0.87	0.126
Southern Europe	266	57.3	2.17	0.000
Western Europe	115	22.2	0.84	0.303
Other Europe & USSR	87	29.5	1.12	0.507
Middle East & North Africa	36	43.3	1.64	0.028
Asia	161	54.1	2.05	0.000
Period in Australia				
Immigrants				
10 years or less	170	50.3	1.90	0.000
11 years or more	1058	33.2	1.26	0.000
Australian-born	3499	26.4	1.00	

(a) No exercise taken of any kind for recreation, sport or health fitness purposes in the previous two weeks.
Rate Prevalence rate adjusted for age in five 10–year groups.
Ratio Ratio of prevalence rates, region to Australia.
Prob. P value of comparison with Australian prevalence.

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9 Differences in levels and types of disabilities

Edouard d'Espaignet and Marijke van Ommeren

9.1 Introduction

Differentials in disability were investigated using the 1988 ABS Survey of Disabled and Aged Persons. This survey was conducted throughout Australia from February to May 1988. The sample comprised some 70,000 individuals who, whenever possible, reported on their own impairments and degree of severity. When a selected subject could not provide the information, for example because of functional limitation, a proxy, usually another member of the household, responded on their behalf.

9.2 Methods

Definitions of disabled and handicapped persons

The ABS Survey classified a person as impaired if that person had a limb, organ or system of the body that was either defective or missing.

A disability was defined as a limitation of function that could result only from the existence of an impairment. A disabled person was defined as a person 'who had one or more of a group of selected impairments which had lasted, or were likely to last, for six months or more'. The group of disabilities or impairments included:

- loss of sight (even when wearing glasses or contact lenses)
- loss of hearing
- speech difficulties in native languages
- blackouts, fits or loss of consciousness
- slowness at learning or understanding
- incomplete use of arms or fingers
- incomplete use of feet or legs
- long-term treatment for nerves or an emotional condition
- restriction in physical activities or in doing physical work
- disfigurement or deformity
- need for help or supervision because of a mental disability
- long-term treatment or medication (but was still restricted in some way by the condition being treated).

Just as a disability can only result from an impairment, a handicap can in turn only exist if a person is disabled. A handicapped person was defined as a disabled person aged

5 years or more who was further identified as being limited to some degree in his/her ability to perform certain tasks in relation to one or more of self-care, mobility, verbal communication, schooling, and employment. In other words, a handicap is a measure of social disadvantage. Handicaps were described as follows:

- self-care handicap—difficulties in showering, bathing, dressing, eating
- mobility handicap—difficulties in using public transport, moving around outside the home/health establishment, moving around inside the home/health establishment, walking 200 metres, walking up and down stairs
- verbal communication handicap—difficulties understanding or being understood by strangers/family/friends/staff in the person's native language
- schooling limitation—unable to attend school, attended special classes in an ordinary school, needed time off from school or had difficulty at school because of disabling conditions. This information was collected for people in households aged 5 to 14 years and those aged 15 to 20 years still attending school
- employment limitation—permanently unable to work, restricted in type of work could do, often needed time off work, restricted in number of hours could work, would require an employer to make special arrangements, or limited in prospects of obtaining/ keeping/ changing jobs. This information was collected for people in households aged 21 to 64 years and those aged 15 to 20 years not attending school. It was not collected for people in health establishments.

Information about the severity of the handicaps with respect to self-care, mobility and verbal communication were also collected in the survey. The levels of the handicaps were divided into mild, moderate and severe. These were defined as follows:

- mild handicap—no personal help or supervision required and no difficulty in performing any of the tasks, but the person uses an aid, or has difficulty walking 200 metres or up and down stairs
- moderate handicap—no personal help or supervision required, but the person has difficulty in performing one or more of the tasks
- severe handicap—personal help or supervision required or the person is unable to perform one or more of the tasks.

In undertaking this analysis of disability differentials among the various ethnic groups, the data were categorised into 'All disabilities', 'All handicaps' and 'All severe handicaps'.

Measures of ethnicity

Measures of ethnicity were obtained through the use of the country of birth and language background of the respondents.

The following countries or groups of countries of birth were used in this chapter:

- Australia
- Asia (including Middle East)

- Europe: Greece, Italy, UK & Ireland, Yugoslavia, all other European countries
- All other countries.

When language was used to determine ethnicity, the following categories were used:

- English (born in Australia)
- Other English-speaking background
- Non-English-speaking background.

In addition, the results of the survey were analysed using 'length of residence in Australia'. This was categorised into those living in Australia for:

- less than 15 years; and
- for 15 years or more.

Standardisation by age

From the data generated in the survey, the ABS calculated the prevalence of disability among various ethnic groups in the population. These rates were then applied to the mid-1988 population to estimate the numbers of disabled and handicapped persons in the population. For this report, we obtained these estimated numbers of disabled and handicapped persons by age, sex and by ethnicity from the ABS.

Crude rates for disability and handicap are presented for each ethnic group. The crude rates are important indicators of the actual burden of disability and handicap prevalent in each community. A comparison of the crude rates across ethnic groups, however, can be misleading because these rates are affected both by the age distribution of the different groups and by their age specific rates of disability. Since disability is associated with age, populations with an older age profile will tend to experience higher crude rates of disability.

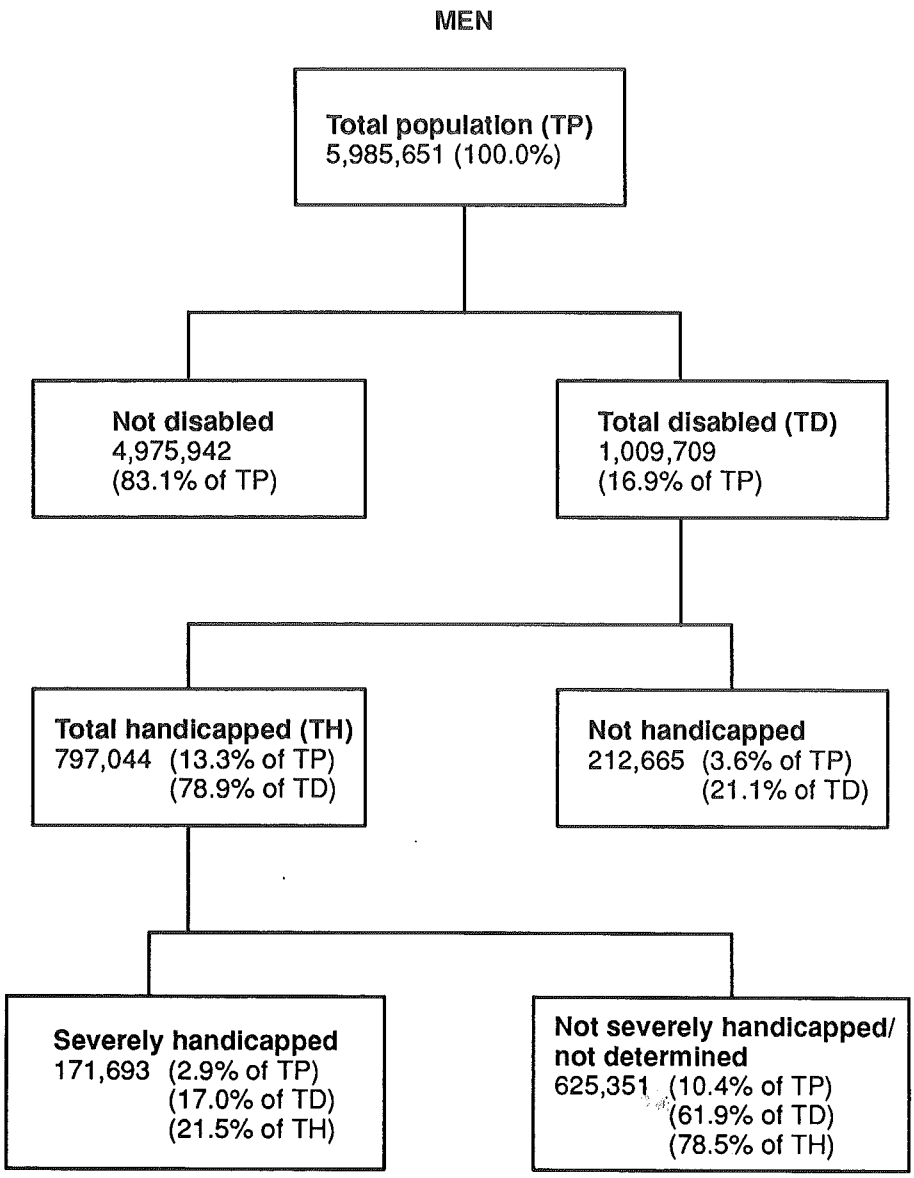
Comparisons of the level of disability experienced in the different ethnic groups thus require statistics adjusted for the effect of age composition. The method of indirect standardisation was used (see Chapter 4) and summary statistics produced for the different ethnic groups. The analysis was restricted to the adult population aged 15 to 74 years and the procedure was carried out separately for men and women using the rates for the Australian male and female populations respectively.

9.3 Results

9.3.1 Relation of disability and handicap

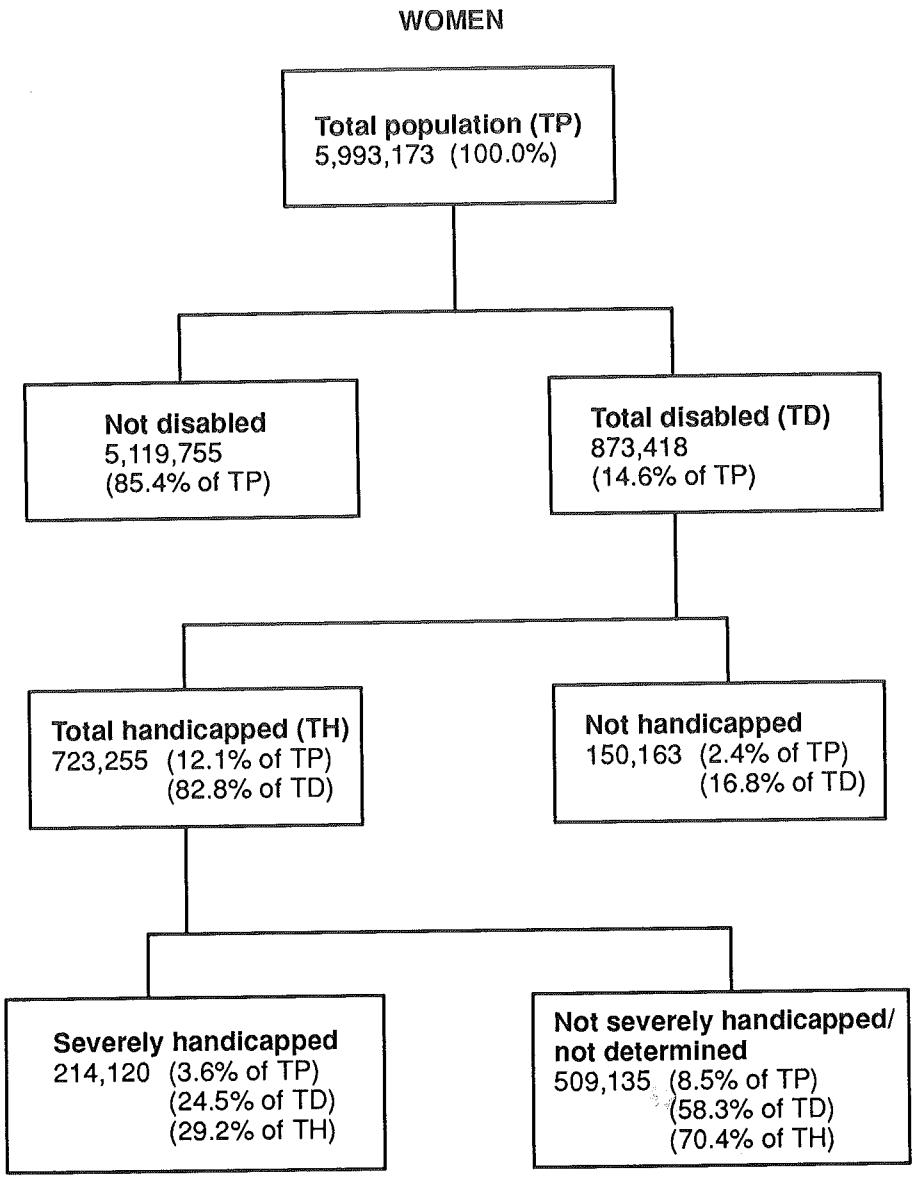
The 1988 ABS Survey of Disabled and Aged Persons estimated that there was 1.9 million disabled persons aged between 15 and 74 years in Australia. The data in Charts 9.1 and 9.2 present further details of the above numbers.

Chart 9.1: *Disability and handicap for all men aged 15–74 years in Australia*



There were about 5,985,651 men aged between 15 and 74 years. Of these, 1,009,709 were disabled (17%). Almost 79% (or 797,044) of these disabled men were handicapped. 171,693 of these men in turn were severely handicapped, representing almost 3% of the total male Australian population aged between 15 and 74 years.

Chart 9.2: *Disability and handicap for all women aged 15–74 years in Australia*



Of the 5,993,173 women aged 15 to 74 years, 873,418 (15%) had a disability. 83% (723,255) of those disabled women were handicapped from that disability. 214,120 women altogether reported suffering from severe handicaps making up 3.6% of the total population and 25% of those with a disability.

9.3.2 Prevalence of disability, handicaps and severe handicaps

The crude prevalences indicate the actual burden of disability and handicaps reported by each community in 1988. As already stated, because of possible different age distributions in the different communities, a direct comparison of these rates across ethnic groups may be misleading (Table 9.1).

Table 9.1: *Prevalence of disability, handicaps and severe handicaps by country of birth for persons aged 15–74 years*

Country/region of birth	Disabled	Handicapped	Severely handicapped
MEN			
Australia	167.8	132.9	27.5
Asia & Middle East	86.3	71.8	14.9
Europe:			
Greece	240.3	217.2	70.5
Italy	229.6	181.4	65.6
United Kingdom & Ireland	191.9	132.9	27.5
Yugoslavia	174.3	166.6	40.0
Other Europe	211.6	146.5	35.4
Other countries	101.9	78.4	16.3
WOMEN			
Australia	143.5	117.5	34.0
Asia & Middle East	67.2	64.5	24.0
Europe:			
Greece	222.6	211.5	74.1
Italy	182.5	169.6	78.4
United Kingdom & Ireland	178.9	148.4	36.8
Yugoslavia	133.6	119.0	38.7
Other Europe	191.8	154.8	46.0
Other countries	111.7	87.8	33.4

Note: Prevalences expressed per thousand persons

Generally the percentage of handicapped among persons with a disability was higher among women than among men. The only exception to this was among Yugoslav-born persons for whom a higher percentage was reported for men (96%) compared with women (89%) (Table 9.2).

Between 89% and 96% of disabled women born in Asia & Middle East, Greece, Italy and Yugoslavia reported being handicapped from their disability. This compared with about 82% for Australian-born women. This percentage did not substantially differ from those for women born elsewhere.

Among disabled men, those born in Yugoslavia (96%) and Greece (90%) had distinctly higher percentages handicapped than men born in other places (about 80%).

Table 9.2: *Percentage of handicapped among total disabled by sex by country of birth for persons aged 15–74 years, 1988*

Country/region of birth	Percentage of handicapped among total disabled		
	Men	Women	Excess of women over men
Australia	79.2	81.9	2.7
Asia & Middle East	83.1	96.0	12.9
Europe:			
Greece	90.4	95.0	4.6
Italy	79.0	92.9	13.9
United Kingdom & Ireland	77.9	83.0	5.1
Yugoslavia	95.6	89.1	−6.5
Other Europe	69.2	80.7	11.5
Other countries	76.9	78.6	1.7

Table 9.3: *Percentage of severely handicapped among total handicapped by sex by country of birth for persons aged 15–74 years, 1988*

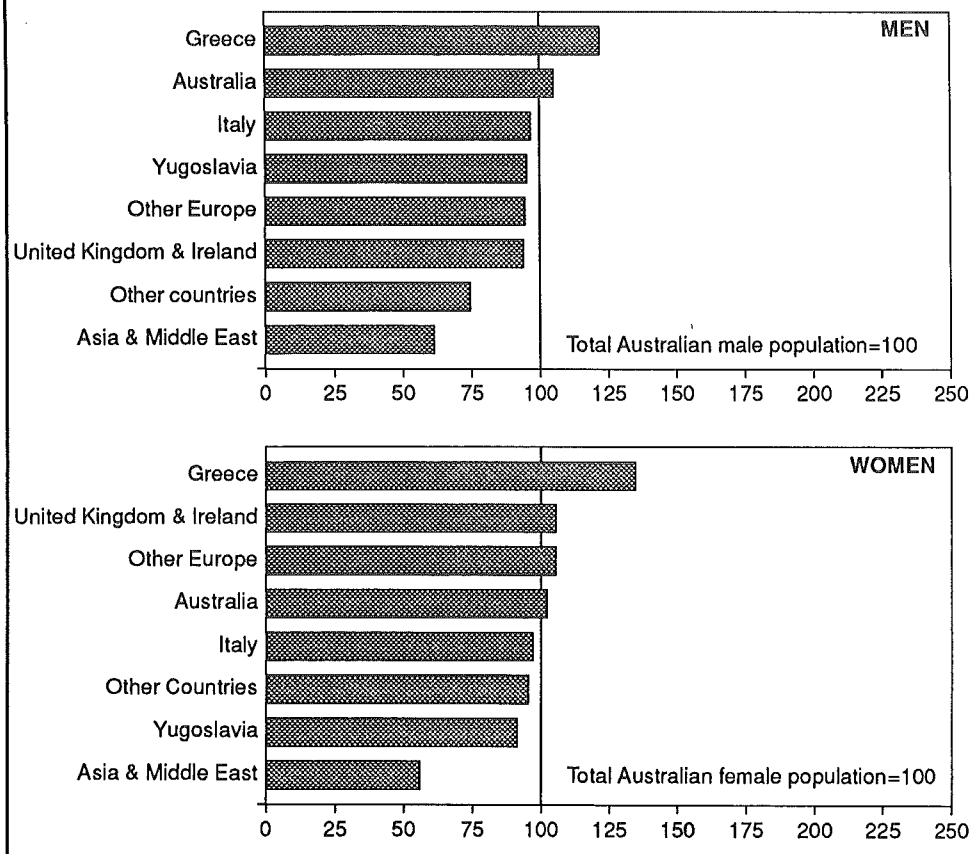
Country/region of birth	Percentage of severely handicapped among total handicapped		
	Men	Women	Excess of women over men
Australia	20.7	28.9	8.2
Asia & Middle East	20.8	37.2	16.4
Europe:			
Greece	32.4	35.1	2.7
Italy	36.2	46.3	10.1
United Kingdom & Ireland	18.8	24.8	6.0
Yugoslavia	24.0	32.5	8.5
Other Europe	24.2	29.7	5.5
Other countries	20.8	38.1	17.3

The percentage of severe handicaps among all handicaps was higher among women than among men irrespective of country of birth. The largest gender disparities were reported for persons born in the 'Other countries' category and Asia & Middle East (Table 9.3).

The corresponding proportions for Australian-born men and women were lower than for any other group except for those born in United Kingdom & Ireland.

9.3.3 Total disability

Figure 9.1: *Age-adjusted disability ratios for men and women aged 15 to 74 years by country/region of birth, 1988*

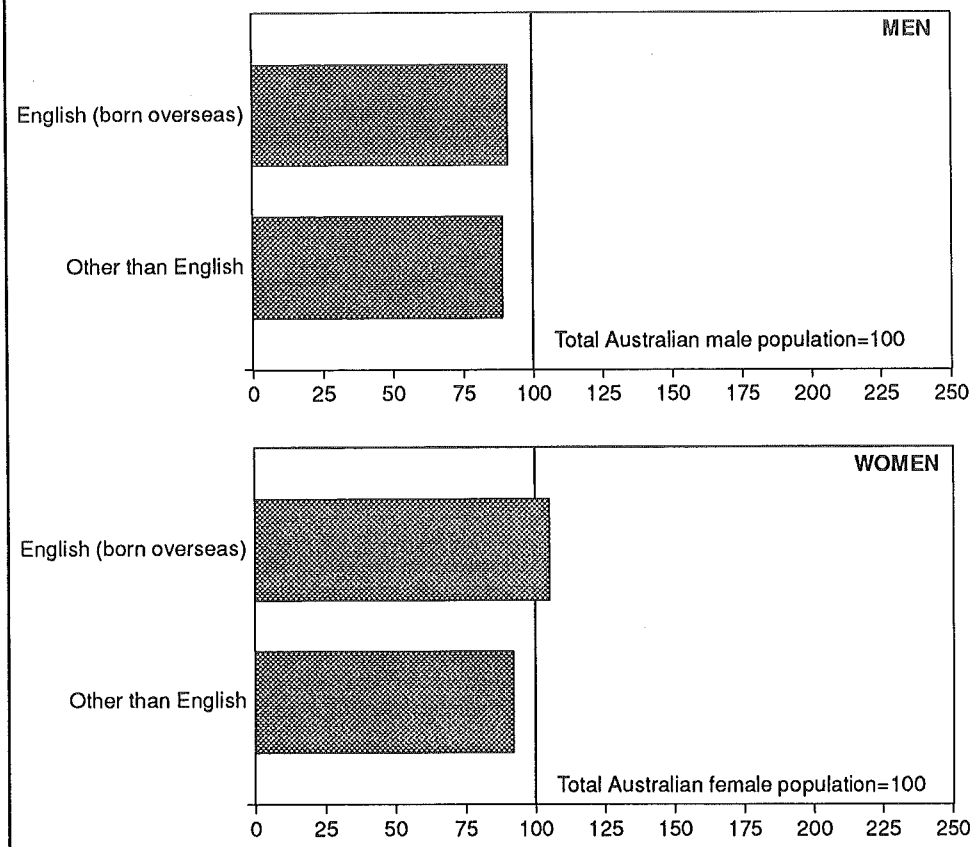


Note: The bars represent the ratios of disability using total Australian population as reference

Greek-born persons reported the highest level of disability. The level among the men exceeded the level for the Australian male population by 22% while the corresponding excess for the women born in Greece was 34%.

Persons born in Asia & Middle East reported the lowest level of disability—just over half the level for the total Australian population.

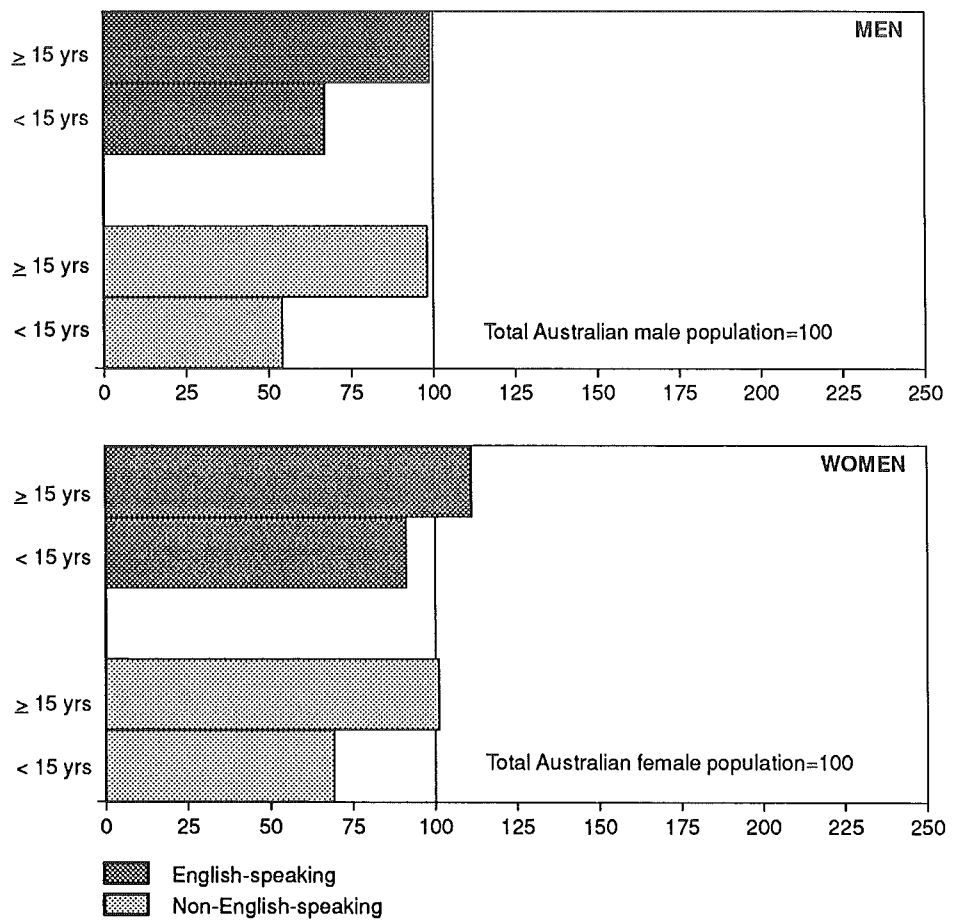
Figure 9.2: *Age-adjusted disability ratios for men and women aged 15 to 74 years by main language spoken in country of birth, 1988*



Note: The bars represent the ratios of disability using total Australian population as reference

When compared against the total Australian population, people born in countries of an English-speaking background reported a higher level of disability than those from countries of non-English-speaking background. This disparity was more pronounced among the women than among men.

Figure 9.3: *Age-adjusted disability ratios for overseas-born men and women aged 15 to 74 years by main language spoken in country of birth by length of residence in Australia, 1988*



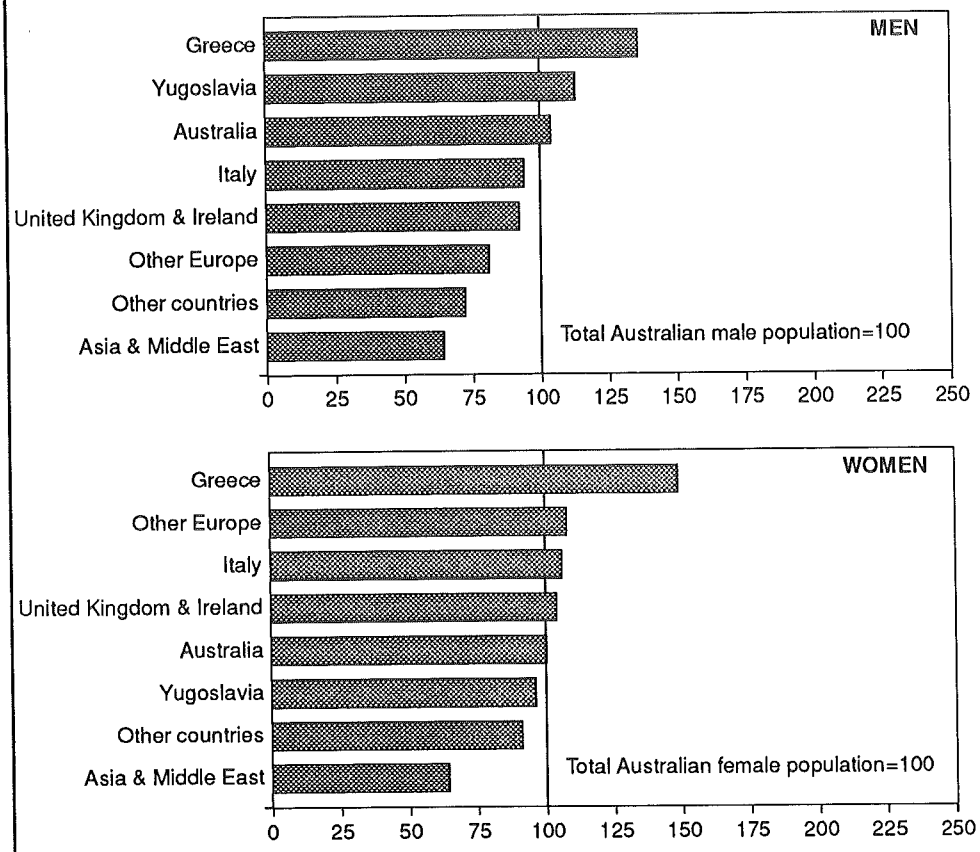
Note: The bars represent the ratios of disability using total Australian population as reference

Migrants with less than 15 years residence in Australia reported fewer disabilities than the total Australian population. Male migrants from English-speaking countries reported higher levels of disability than those from non-English-speaking countries.

Where length of residence was 15 years or more, disability ratios were worse for both English- and non-English-speaking migrants. There was, however, little difference in the reported level of disability between the two migrant groups and the total Australian population.

9.3.4 Total handicaps

Figure 9.4: *Age-adjusted handicap ratios for men and women aged 15 to 74 years by country/region of birth, 1988*

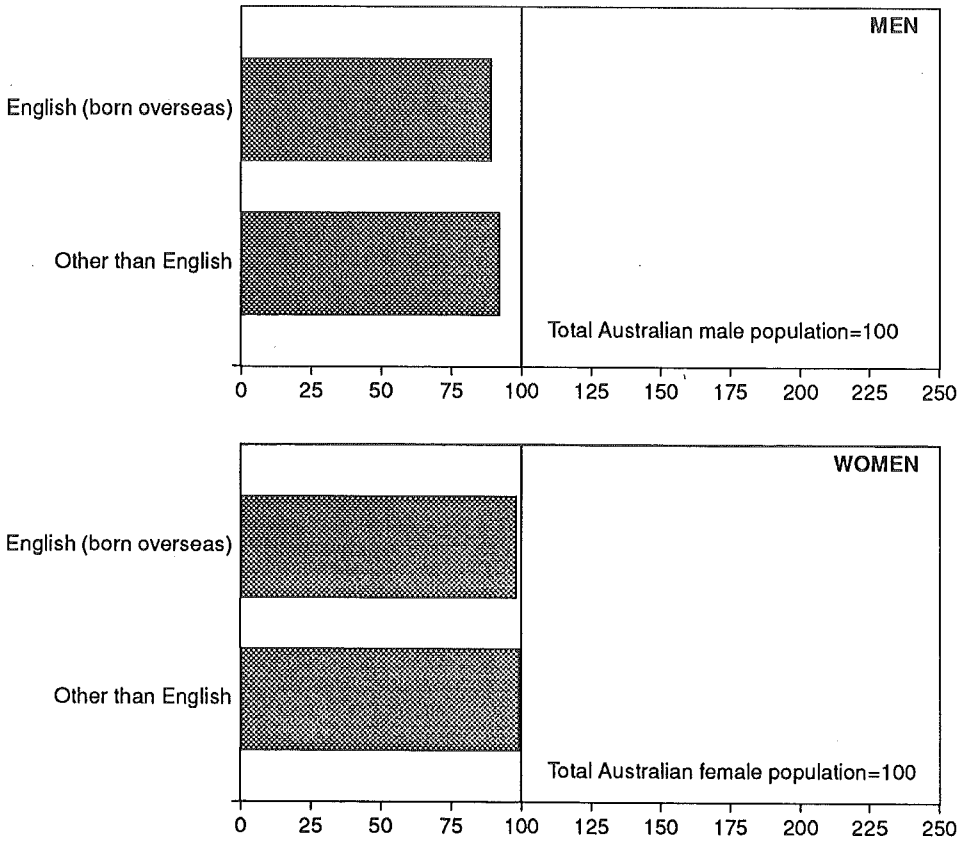


Note: The bars represent the ratios of handicaps using total Australian population as reference

Persons born in Greece reported the highest levels of handicaps. Greek-born women reported a level that was 49% higher than for the total Australian female population. The corresponding differential for Greek-born men was 36%. Excluding persons born in Asia, there was little difference between the level for all other persons and that of the total Australian population.

At the other end of the spectrum, persons born in Asia & Middle East reported 36% fewer handicaps than the total Australian population.

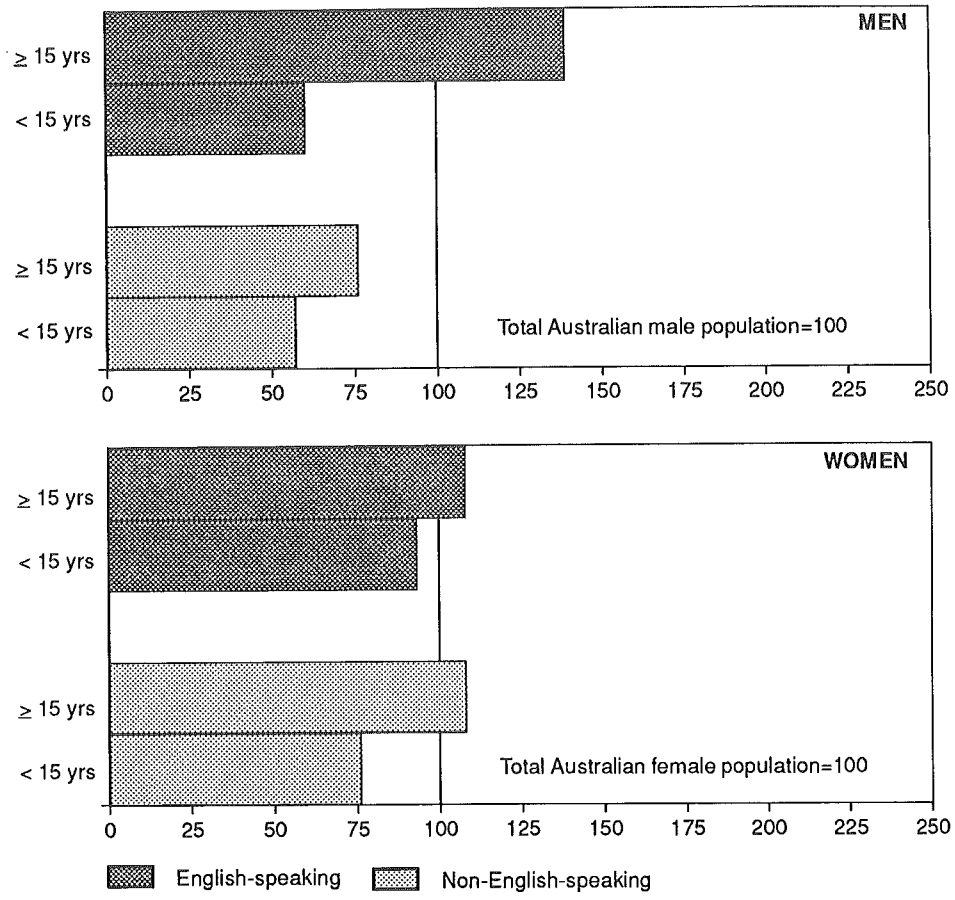
Figure 9.5: *Age-adjusted handicap ratios for men and women aged 15 to 74 years by main language spoken in country of birth, 1988*



Note: The bars represent the ratios of handicaps using total Australian population as reference

Although those who were born in a non-English-speaking country reported slightly higher levels of handicaps than those born in English-speaking countries, there was no significant difference between these levels and that of the total Australian population.

Figure 9.6: *Age-adjusted handicap ratios for overseas born men and women aged 15 to 74 years by main language spoken in country of birth by length of residence in Australia, 1988*



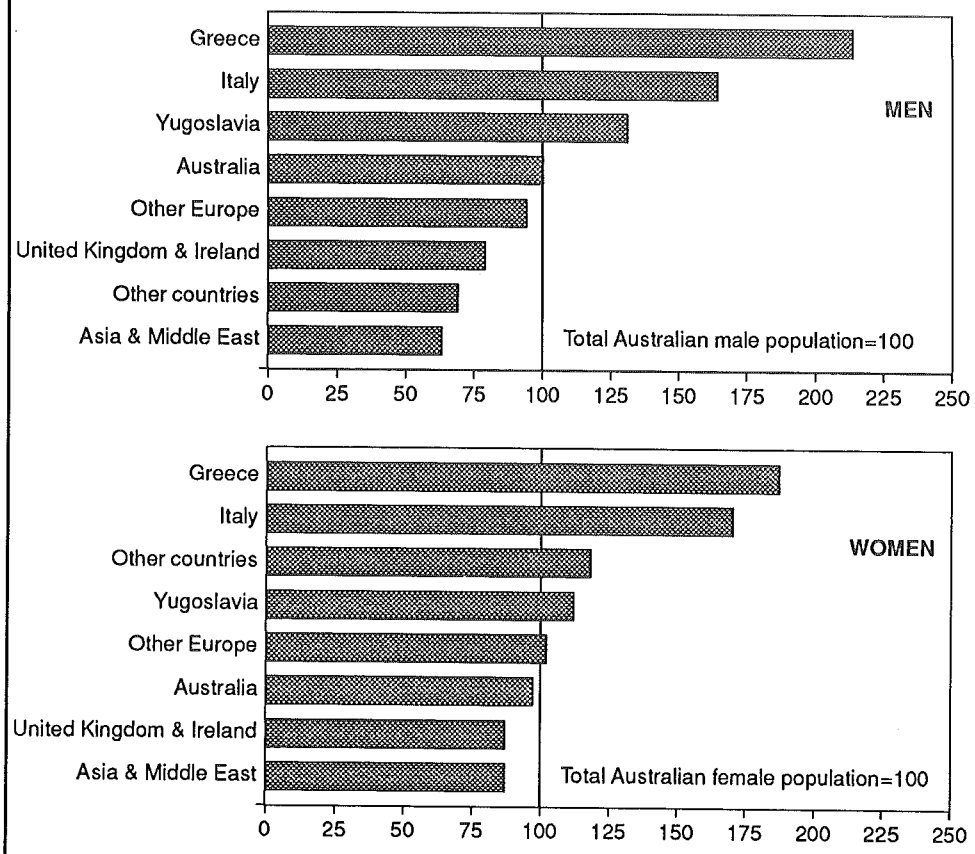
Note: The bars represent the ratios of severe handicaps using total Australian population as reference

Relative to the total Australian population, there was little difference in reported handicap level among male migrants who had been in Australia for less than 15 years irrespective of language spoken in their country of birth. Among female migrants, those from an English speaking background reported a level of 93 compared with a level of 76 for those from a non-English-speaking background.

At longer lengths of residence, a different pattern emerged between men and women. Male migrants of an English-speaking background reported a level of 139 compared with a level of 76 for men of non-English-speaking background. There was no difference among women of English- and non-English-speaking background although both groups exceeded the level for the total Australian-born by 8 per cent.

9.3.5 Total severe handicaps

Figure 9.7: *Age-adjusted severe handicap ratios for men and women aged 15 to 74 years by country/region of birth, 1988*

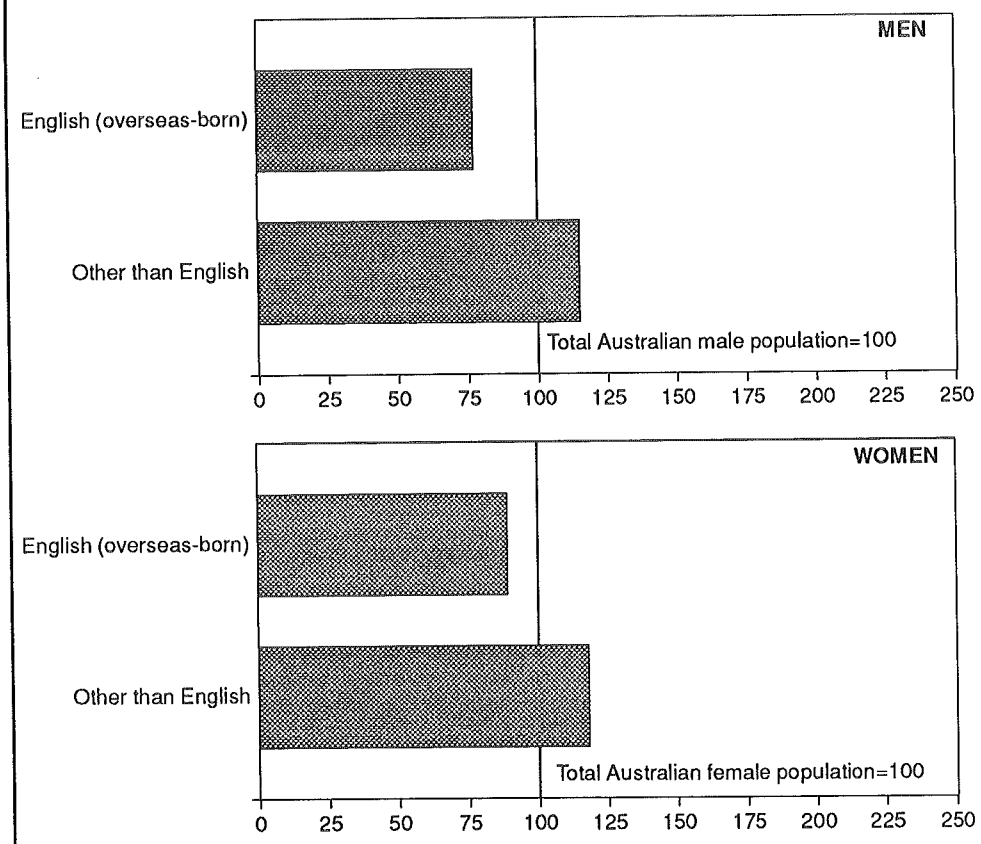


Note: The bars represent the ratios of severe handicaps using total Australian population as reference

Among men, those born in Greece, Italy and Yugoslavia were the most affected. Greek-born men reported more than double the total Australian level of severe handicaps, while the Italian- and Yugoslav-born men registered levels that were 64% and 31% higher than that of the total Australian male population. Men born in the other regions all reported lower levels than the Australian-born men with those born in Asia & Middle East reporting substantially lower levels.

The pattern for the women was fairly similar although only women born in United Kingdom & Ireland, and Asia & Middle East reported lower levels than the total Australian female population.

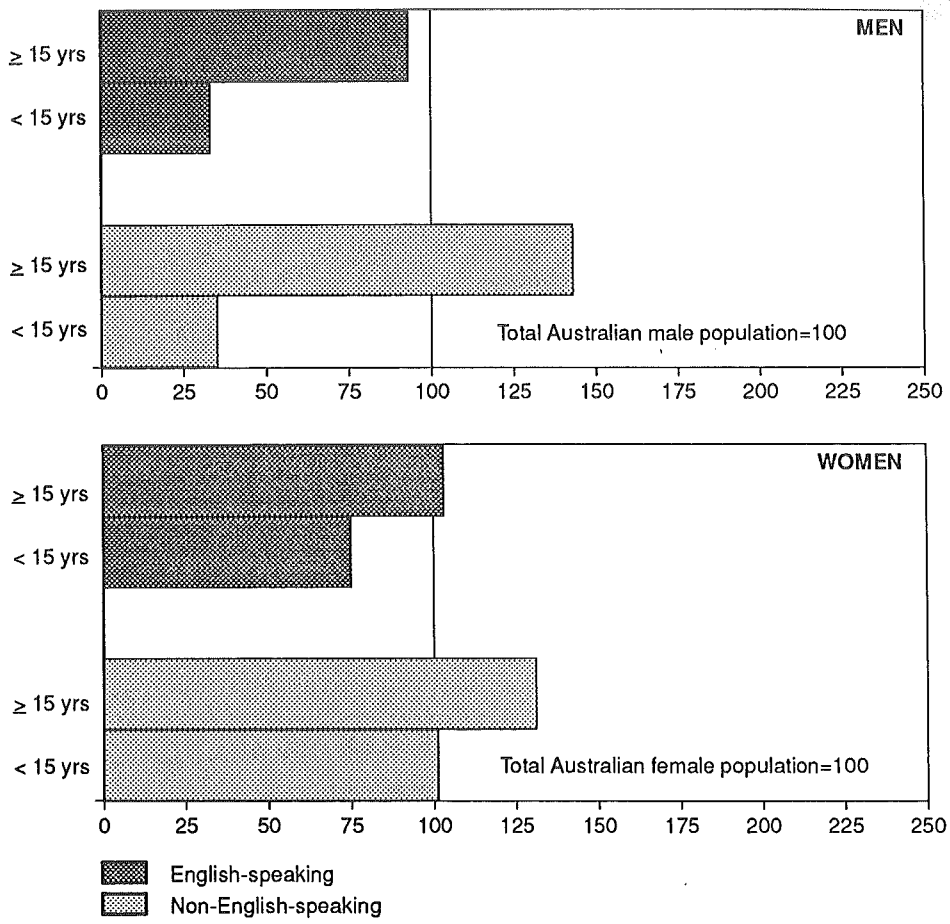
Figure 9.8: *Age-adjusted severe handicap ratios for men and women aged 15 to 74 years by main language spoken in country of birth, 1988*



Note: The bars represent the ratios of severe handicaps using total Australian population as reference

Both men and women from a non-English-speaking background reported higher levels of severe handicap compared with those from an English-speaking background relative to the total Australian populaton).

Figure 9.9: *Age-adjusted severe handicap ratios for overseas-born men and women aged 15 to 74 years by main language spoken in country of birth by length of residence in Australia, 1988*



Male migrants with less than 15 years residence in Australia reported about 60% to 70% fewer severe handicaps than the total male Australian population. There was little difference between migrants themselves irrespective of whether English was the major mode of communication in their country of birth. Among women, those from a non-English-speaking background reported higher levels of severe handicap compared with women of English-speaking background.

As lengths of residence increased to 15 years or more, migrants from English-speaking countries reported levels of severe handicaps similar to the total Australian population. By contrast, male migrants from non-English-speaking background reported 43% and female migrants 31% more severe handicaps than the total Australian population.

9.4 Discussion

The terms impairment, disability and handicap are often interchanged in general usage. For scientific inquiry, however, these terms need to be defined to produce mutually exclusive groups. Estimates and comparisons of the prevalences for the various ethnic groups depend on:

- the definition of impairments, disabilities and handicaps and of the grades of severity in these handicaps;
- the degree of consistency in comprehension of the questions, and of the responses by individuals; and
- the degree to which ethnic groups, with different cultures, might assess their health status.

The lengthy introduction to this chapter is an adequate illustration of the amount of detail required in defining these limiting conditions, but much confusion remains about their meaning. The ambiguity, however, is not merely one of semantics. In commenting on the '... imprecise and overlapping definitions of the words acute, chronic, illness, disability and disease', Fox (1989) has pointed out that the categorisation of diseases and ensuing disability is steeped in political ideology. Often the definition is dependent on the context in which the limiting condition occurs. In the past, disability has been viewed as a set of limiting conditions requiring technological, legal or economic solutions. The environmental context has generally been ignored.

The introduction of ethnic differences into the social and environmental context makes the analysis even more difficult. Cultural, religious, social and behavioural values partly determine the definition of disease, impairment, disability and handicap. Different groups may view similar conditions as limiting or as normal. A comparison of these outlooks would probably be different for those born in different parts of Australia, let alone for those born in different parts of the globe.

In view of the above limitations, a weakness of the analysis undertaken was that the survey methodology was not specifically designed to provide information on differences between the various ethnic groups. The sample size of many of the ethnic groups was not adequate for analysis. A survey designed to detect differences between the groups would have required oversampling of the different ethnic groups. The survey method, however, often caused these groups to be either undersampled or not sampled at all. To circumvent the ensuing problem of small numbers, including possible breach of confidentiality, many of the groups had to be merged. Although not one single ethnic group is homogeneous or typical of migrants in general, people from Asia and the Middle East had to be combined to form a unit of analysis. The aggregating of the experiences of groups as diverse as people from Vietnam, Lebanon, Hong Kong etc. makes it difficult to interpret the results.

The conduct of a survey where respondents report on their own conditions raises important issues of objectivity of diagnosis. Proficiency in English by individual respondents furthermore raises the possibility that there may have been inconsistent comprehension of the questionnaire. When these problems are taken in conjunction with the issue of cultural diversity, the survey may be criticised for possibly producing cases that are too heterogeneous for useful epidemiological analysis.

When assessing the results presented earlier, these limitations have to be taken into account. Despite these potential restrictions, the analyses have confirmed the results of smaller scale studies undertaken elsewhere. In particular, the survey showed the worse-off state of migrants born in countries where English is not the major medium of communication.

The shift in the profile along the continuum in the degree of severity from disability to severe handicaps was particularly interesting. Persons born in Australia and in other countries where English was the major medium of communication reported higher levels of disability than did those persons born in non-English-speaking countries. The latter, however, reported higher levels of severe handicaps.

An analysis by length of residence in Australia was also undertaken. Migrants who had been in Australia for more than 15 years were more likely to suffer from functional limitations than those who had been here for a lesser period. This was as true for those of English-speaking as for those of non-English-speaking background. This cannot be due to ageing since the analysis had adjusted for different age compositions.

The results confirm the findings of other studies (Cass, Gibson & Tito 1988; Lee 1988; Morrissey 1984).

The trauma involved in relocating to another country usually exceeds most people's expectations. Physical and emotional isolation in a new and strange place can adversely affect health status. Communication difficulties and language barriers form additional disadvantages in reducing access to preventive information and curative services. The costs of moving to Australia and the lack of a support system in the new country means that most migrants cannot afford to be unemployed for long. As a consequence, migrants are perhaps more likely to accept more dangerous types of work. Moreover, because of economic necessity, wives have to work to supplement the family income, often leaving children in inadequate care (Piperoglou 1988). As Schofield (1990:297) has commented, 'the concentration of immigrants in high-risk occupations means that they are more likely than the mainstream population to suffer long-term physical injuries'. Alcorso (1988:42) has also noted that 'substantially greater proportions of people from non-English speaking countries for which figures are available are handicapped as a result of accidents ... (and that the) ... handicap-causing accidents .. of migrant groups occur mainly at work'.

Explanations for the higher level of severe handicaps among persons of a non-English-speaking background (especially women) cannot, however, be determined from an analysis of the 1988 ABS Survey. To better understand the causes behind the results presented here, more knowledge is needed of the disability profiles in the country of origin of the migrants. Their health status also needs to be assessed with respect to their attitudes to health, illness and disability, to patterns of illness in the country of origin, to the length of residence in Australia, to their ability to understand and speak English, to their employment history, and to the support services available to them in the areas of social welfare, housing and health.

Table 9.4 *Number of persons aged 15–74 years by disability status by country/region of birth, Australia, 1988*

Country/region of birth	Disabled					Not disabled	Total population
	Handicapped						
	Severely handicapped	Not severely handicapped	Total handicapped	Disabled but not handicapped	Total disabled		
MEN							
Australia	120,559	461,579	582,138	153,069	735,207	3,646,559	4,381,766
Asia	3,666	13,955	17,621	3,573	21,194	224,368	245,562
Europe:							
Greece	5,737	11,951	17,688	1,878	19,566	61,862	81,428
Italy	9,840	17,369	27,209	7,227	34,436	115,568	150,004
UK & Ireland	14,962	64,800	79,762	22,610	102,372	433,610	535,982
Yugoslavia	3,248	10,285	13,533	625	14,158	67,069	81,227
Other Europe	9,982	31,296	41,278	18,338	59,616	222,818	282,434
Other countries	3,699	14,116	17,815	5,345	23,160	204,088	227,248
Total	171,693	625,351	797,044	212,665	1,009,709	4,975,942	5,985,651
WOMEN							
Australia	152,365	374,939	527,304	116,537	643,841	3,843,038	4,486,879
Asia	6,139	10,362	16,501	692	17,193	238,580	255,773
Europe:							
Greece	5,084	9,419	14,503	760	15,263	53,320	68,583
Italy	9,721	11,297	21,018	1,604	22,622	101,347	123,969
UK & Ireland	18,906	57,327	76,233	15,615	91,848	421,715	513,563
Yugoslavia	2,430	5,045	7,475	918	8,393	54,434	62,827
Other Europe	12,251	29,005	41,256	9,842	51,098	215,350	266,448
Other countries	7,224	11,741	18,965	4,195	23,160	191,971	215,131
Total	214,120	509,135	723,255	150,163	873,418	5,119,755	5,993,173

Table 9.5: *Age adjusted disability ratios by country/region of birth by sex for all persons aged 15 to 74 years*

Country of birth	Age adjusted disability ratios	
	Men	Women
Total Australian population (used as reference)	100	100
Australia	105	102
Asia & Middle East	61	56
Europe:		
Greece	122	134
United Kingdom & Ireland	94	105
Italy	97	97
Yugoslavia	95	91
Other Europe	94	105
Other countries	74	95

Table 9.6: *Age adjusted disability ratios by main language of country of birth by sex for all persons aged 15 to 74 years*

Language spoken in country of birth	Age adjusted disability ratios	
	Men	Women
Total Australian population (used as reference)	100	100
English (born overseas)	91	105
Other than English	89	92

Table 9.7: *Age adjusted disability ratios by language spoken in country of birth by length of residence in Australia for all overseas-born men aged 15 to 74 years*

Language spoken in country of birth (for those born overseas)	Age adjusted disability ratios	
	Residence of less than 15 years	Residence of 15 years or more
English	67	99
Other than English	54	98

Note: Total Australian male population aged 15 to 74 years used as reference (=100)

Table 9.8: *Age adjusted disability ratios by language spoken in country of birth by length of residence in Australia for all overseas women aged 15 to 74 years*

Language spoken in country of birth	Age adjusted disability ratios	
	Residence of less than 15 years	Residence of 15 years or more
English	91	111
Other than English	69	101

Note: Total Australian female population aged 15 to 74 years used as reference (=100)

Table 9.9: *Age adjusted handicap ratios by country/region of birth by sex for all persons aged 15 to 74 years*

Country of birth	Age adjusted handicap ratios	
	Men	Women
Total Australian population (used as reference)	100	100
Australia	104	100
Asia & Middle East	64	64
Europe:		
Greece	136	149
United Kingdom & Ireland	92	104
Italy	94	106
Yugoslavia	113	96
Other Europe	81	108
Other countries	72	91

Table 9.10: *Age adjusted handicap ratios by main language of country of birth by sex for all persons aged 15 to 74 years*

Language spoken in country of birth	Age adjusted handicap ratios	
	Men	Women
Total Australian population (used as reference)	100	100
English (born overseas)	89	98
Other than English	92	99

Table 9.11: *Age adjusted handicap ratios by language spoken in country of birth by length of residence in Australia for all overseas-born men aged 15 to 74 years*

	Age adjusted handicap ratios	
Language spoken in country of birth	**Residence of less than 15 years**	**Residence of 15 years or more**
English	60	139
Other than English	57	76

Note: Total Australian male population aged 15 to 74 years used as reference (=100)

Table 9.12: *Age adjusted handicap ratios by language spoken in country of birth by length of residence in Australia for all overseas-born women aged 15 to 74 years*

	Age adjusted handicap ratios	
Language spoken in country of birth	**Residence of less than 15 years**	**Residence of 15 years or more**
English	93	108
Other than English	76	108

Note: Total Australian female population aged 15 to 74 years used as reference (=100)

Table 9.13: *Age adjusted severe handicap ratios by country/ region of birth by sex for all persons aged 15 to 74 years*

	Age adjusted severe handicap ratios	
Country of birth	**Men**	**Women**
Total Australian population (used as reference)	100	100
Australia	100	97
Asia & Middle East	63	87
Europe:		
Greece	214	187
United Kingdom Ireland	79	87
Italy	164	170
Yugoslavia	131	112
Other Europe	94	102
Other countries	69	118

Table 9.14: *Age adjusted severe handicap ratios by main language of country of birth by sex for all persons aged 15 to 74 years*

Language spoken in country of birth	Age adjusted severe handicap ratios	
	Men	Women
Total Australian population (used as reference)	100	100
English (born overseas)	77	89
Other than English	115	118

Table 9.15: *Age adjusted severe handicap ratios by language spoken in country of birth for men by length of residence in Australia for all overseas-born persons aged 15 to 74 years*

Language spoken in country of birth (for those born overseas)	Age adjusted severe handicap ratios	
	Residence of less than 15 years	Residence of 15 years or more
English	33	93
Other than English	35	143

Note: Total Australian male population aged 15 to 74 years used as reference (=100)

Table 9.16: *Age adjusted severe handicap ratios by language spoken in country of birth for women by length of residence in Australia for all overseas-born persons aged 15 to 74 years*

Language spoken in country of birth (for those born overseas)	Age adjusted severe handicap ratios	
	Residence of less than 15 years	Residence of 15 years or more
English	75	103
Other than English	101	131

Note: Total Australian female population aged 15 to 74 years used as reference (=100)

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10 Private health insurance: differences in coverage among ethnic groups.

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10.1 Introduction

In Australia, private health insurance is an optional supplement to Medicare, providing benefits towards the costs of accommodation and treatment as a private patient in hospital (hospital insurance) and the costs of optical, dental, physiotherapy and other services (ancillary services or 'extras').

In 1990 49 per cent of the Australian population over the age of 15 was covered by hospital insurance. Having hospital insurance is not equally distributed across different population groups. The level of private hospital insurance varies significantly with age and income, with income being the more dominant predictor (Willcox 1991).

There have been no studies of private health insurance coverage in all immigrant groups in Australia. The only study of a specific group is about Greek immigrants (Treloar et al. 1977). This study, which was conducted in 1973–74 before the introduction of Medibank, was initiated because of concern for the low rate of private health insurance coverage of Greek immigrants. One of the reasons for it was the belief that significant differences in health insurance services between Australia and the country of origin combined with language and cultural barriers could cause many immigrants to be anxious, suspicious and often ignorant about health insurance in Australia.

The aim of this chapter is to describe private hospital insurance coverage differences (under Medicare) in our immigrant groups and in native-born Australians.

10.2 Methods

Information about private health insurance arrangements was obtained from the June 1990 Health Insurance Survey (HIS) and the 1989–90 National Health Survey (NHS), both conducted by the Australian Bureau of Statistics.

For these analyses the only distinction made is between having hospital insurance and having no hospital insurance. Having ancillary insurance only, and the level of hospital insurance, have not been taken into account. Persons having ancillary insurance only are excluded from the discussion and the tables because of the very low numbers involved. This means that percentages in the tables, which are at the end of this chapter, do not always add up to 100 per cent. Persons who had private health insurance but did not know which one have been excluded from the analyses.

Having private health insurance, hospital only, or hospital and ancillary, is also called 'being covered' or 'having coverage'.

The 1990 Health Insurance Survey

This survey was conducted throughout Australia in June 1990. It sampled 31,000 private dwellings. The data related to health insurance arrangements by contributor unit.

A contributor unit consists of a 'contributor' plus all persons in the same family who are covered by the health insurance arrangements of the contributor. All children under 15 years of age, and unmarried full-time students between 15 and 25 years of age without dependants of their own and who are living with their parents are assumed to be covered by the health insurance arrangements of the contributor.

The information presented from the HIS relates to the contributor and not to other members of the contributor unit.

Persons under the age of 15 years have been excluded from these analyses.

The National Health Survey

This survey was conducted during the twelve-month period October 1989 to September 1990. Approximately 57,000 persons, in about 22,200 households, were sampled.

All data relate to the status of the respondent only. Persons under the age of 15 years have been excluded from these analyses.

Data items studied and their interpretation

Percentages with private health insurance coverage are given for both surveys. While HIS contributor units and NHS respondents are not directly comparable, trends in the differences in coverage should be similar in the two surveys.

Whether persons from various ethnic backgrounds are covered by private health insurance or not is analysed by sociodemographic characteristics such as income, age, employment status, marital status, language spoken at home and length of residence in Australia. Data items and their categories, selected (and some of them recoded) for the analyses in this chapter only, are set out in Table 10.1. Due to small numbers not all categories of each variable could be used in all analyses.

Countries of birth were coded using the Australian Standard Classification of Countries for Social Statistics (Australian Bureau of Statistics 1990). Table 10.2 provides a detailed classification of countries into regions used for the NHS analyses.

As for most of the sources for this report, the surveys analysed in this chapter were not specifically designed to over-sample immigrants and data for different countries had to be aggregated for most of the cross-tabulations. The same groupings of countries of birth could not be used in all analyses. Estimates from these surveys are based on samples of the population and are subject to sampling errors. To provide as much detail as possible, individual countries have been included as well as the regions of which they are part, even when, due to the small sample size, statistics relating to them were subject to a sampling variability, measured by the standard error, of between 25% and 50%.

The NHS distinguished only among those who had never married, married persons and those in a de facto relationship, and the separated, the divorced and the widowed. The last three categories were combined because of the small numbers in each.

In the analyses of the NHS the variable 'whether a language other than English was spoken at home' was used to investigate the importance of knowledge of English in taking out private health insurance. The variable closest to this in the HIS is the contributor's country of birth grouped according to whether it was an English speaking country or not, with a separate category for Australian-born persons.

Year of arrival was used to differentiate by length of residence.

What has not been taken into account in these bivariate analyses is the fact that the factors considered in this chapter such as age, employment status, income and marital status do tend to be intercorrelated.

10.3 Results

Most people with private hospital insurance have cover for ancillary services as well; only 21% of all persons having hospital insurance have no ancillary insurance (NHS). This compares with 28% of all contributors in the HIS.

Having hospital coverage was reported by 43.1% of all contributor units (HIS). Table 10.3 shows the large variation in the distribution of coverage among ethnic groups, with native-born Australian contributors, those from Africa, America, India, Malaysia, and most European countries having 40% to 48% coverage, while only 20% to 30% of contributor units from Asia (with the exception of India and Malaysia), Greece, Poland, Yugoslavia and New Zealand were covered.

The data from the National Health Survey indicate a similar variation of private health insurance coverage by country of birth. Again, native-born Australians, and persons born in Italy and western Europe have an above average coverage, followed by persons born in UK & Ireland, Other Europe & USSR, in the rest of southern Europe, excluding Greece, and in South-East and Southern Asia. Greek and New Zealand-born persons have the lowest coverage.

Length of residence influences the level of private health insurance coverage for all ethnic groups substantially, leading to a much higher current coverage among longer-settled immigrants. The HIS found that 45% of those who arrived in Australia before 1975 were covered, compared with 17% of those arriving in 1989 and 1990. This compares with a coverage rate of 46% for those arriving before 1980 and 24% for those who arrived between 1985 and 1990, according to the NHS (see Figures 10.1a and 10.1b).

Whether English or another language was spoken at home did have some effect on taking out private health insurance. Table 10.4 shows that persons born in Australia and speaking English at home have the highest coverage at 52%, followed by persons from other English speaking countries, while persons from non-English-speaking countries had the lowest coverage at 36% (NHS). The HIS showed the same trend; 46% of Australian born persons were covered, followed by those from countries where the main language of communication was English. The lowest rates were among persons from non-English-speaking countries at 35%.

Reasons for having private health insurance

The HIS asked about reasons for having private health insurance (see Table 10.5). 'Security, protection and peace of mind' was the most popular reason for doing so; the next most popular reason was being able to choose a doctor, followed by having access to the use of a private hospital and, next, by being able to have the provision of benefits for ancillary services.

Reasons given only rarely, such as 'financial' or 'always had it', 'parents had it' or 'it was a condition of the job' are not shown in Table 10.5—consequently percentages do not add up to 100.

There was little variation in the relative importance of the reasons among the various countries or regions of origin. Security, protection and peace of mind was the most

popular reason for having private health insurance for all birthplaces except Lebanon and Malaysia. Persons from these countries saw choice of doctor as more important. Indians and Dutch persons attached less importance to having a choice of doctor, Poles ranked the use of a private hospital the lowest, and Italians and Dutch persons gave second importance to a shorter wait for treatment and concern over public hospital waiting lists. Almost everyone else regarded the latter reason as the least important.

Neither survey asked about reasons for *not* taking out private health insurance. The question was, however, asked in the 1973 survey of Greek immigrants. The most frequent reason given was the inability to pay the contributions, followed by the belief in being healthy so that they would not fall ill and that therefore contributions were a waste of money (Treloar et al. 1977).

Age

Coverage rates varied greatly with age. Among those aged between 15 and 24 years they are lowest for those born in Greece, the Middle East and New Zealand, but their numbers are small (Tables 10.6a and 10.6b).

Contributors aged between 45 and 54 years tended to have higher rates of private health insurance than those of other ages. Exceptions, according to both surveys, were persons born in Italy, Greece and the Middle East, more of whom had private health insurance at younger ages, and persons born in Africa for whom coverage was higher among those aged 55 to 64 years.

For those over 55 years, coverage rates were lower, except for Greeks and persons from Africa. It should be noted, however, that coverage for Greeks aged 55 years and over, though higher than coverage for their fellow countrymen aged between 45 and 54 years, is still low compared with coverage for persons born elsewhere. According to the HIS, only 28% of Greeks aged between 55 and 64 years are covered compared with 52% for the corresponding total population.

Many more persons aged 65 years and over are without private health insurance than in the middle-aged group. Among this age group, where coverage generally is low, persons born in Asia and Greece have the lowest coverage rates of all, namely 22% and 16% respectively, compared with 38% for the total population of these ages (Table 10.6a).

Whether the lower rate of coverage among older persons reflects a lower income or family composition (they are less likely to have dependent children) cannot be determined from these cross-tabulations. Many older people have some form of entitlement to a government health concession card. Among those aged 65 and over with an entitlement under the Department of Veterans' Affairs, significant numbers (19.4%) are also covered by private health insurance (Willcox 1991).

Employment status

Coverage is much higher for employed persons than for persons not in the labour force (see Tables 10.7a and b). This may also reflect an age and income effect, since persons 65 years and older also have lower participation rates. For most places of birth, not being in the labour force is associated with a drop in coverage rates of about 15% or more; for example, overall coverage rates drop from 51% to 32% (Table 10.7a). However, for New Zealanders and Chinese, whether they are employed or not, coverage rates are relatively low and drop only marginally for those not in the labour force. For New Zealanders, according to the Health Insurance Survey, coverage rates drop from

25% to 22%; this compares with a drop from 35% to 28% according to the NHS. Employed Chinese have an 8% higher coverage rate than Chinese who are not in the labour force, but again their insurance coverage rates are low and proportionately this drop is about the same as for Australian-born persons.

Both surveys had an additional employment status category covering those who were not employed but were looking for work; however, the numbers for each of the birthplaces were rather small—too small in the case of HIS. Hence, only the National Health Survey data have been analysed for this category. Overall, coverage rates for persons of all birthplaces looking for work were lower still than for those not in the labour force (see Table 10.7b). This was especially so for persons born in western Europe, Other Europe & USSR and Australia, mostly because their rates of coverage among those not in the labour force were high at greater than 40%. A notable exception was the relatively small drop in coverage of Italian-born persons, where 37% of unemployed persons looking for work had private health insurance compared with 40% of Italians not in the labour force.

Income

About 21% of contributor units with an income of less than $160 gross per week had private health insurance, whereas about 70% of those with an income of $800 or more were covered (see Table 10.8a). Coverage rates varied from 29% for persons earning between $5,000 and $9,999 per year to 76% for those earning more than $50,000 per year (see Table 10.8b).

Persons earning less than $4,999 gross per year tended to have coverage rates of about 52%; this is comparable to coverage in people earning between $20,000 and $29,999 per year, whose coverage rate was 55% (Table 10.8b). This could be due to the fact that a high percentage of individuals in the lowest income category are not in the labour force, but are covered by family private health insurance. New Zealanders, who are not significantly different from Australians in marital status, are the only group whose coverage in those on incomes up to $4,999 is less than in the next income category; only 21% of those earning less than $4,999 are privately covered for hospital costs compared with 29% earning between $5,000 and $9,999. This compares with 57 and 32% respectively for Australians.

Regardless of birthplace, and with a few minor variations at the high end of the income scale, coverage rates increased as income increased. Among those earning more than $50,000 per year, persons from South-East and southern Asia, Greece, western Europe and Other southern Europe had lower coverage than persons with these birthplaces earning between $40,000 and $49,999 (see Table 10.8b).

Family composition

Family composition also has an influence on levels of coverage. The Health Insurance Survey's categories of family composition included 'single with dependants', but numbers in this category were so low that meaningful comparisons could be made for only a few birthplaces.

Table 10.9a shows the general trend of couples with dependants being most likely to have private health insurance, then couples only, then single persons only, then single persons with dependants. Single persons with dependants from Asia had the lowest coverage of only 14%. There are groups in this category with even lower coverage rates, but these were subject to high sampling variability.

For most birthplaces, couples with dependants have higher coverage rates than couples without dependants. Within individual birthplaces, only couples with no dependants from America, India and New Zealand have higher coverage rates than couples with dependants. These differences are only small. The differences within the other birthplaces between coverage rates for couples with dependants and couples without dependants were much larger at up to 21%.

Many more persons who are married or in a de facto relationship have private health insurance than do single persons. Australian-born persons especially are an example of this difference. They experienced a difference of 20% between singles only and couples only in coverage, compared with 4.5% between couples only and couples with dependants. Germans showed a different pattern, they had a 5% higher coverage rate for couples only compared with singles only, but the difference between couples only and couples with dependants was 21% (HIS).

Persons married or in a de facto relationship were more likely to have private health insurance than those who had never married (see Table 10.9b). This applied especially to persons born in New Zealand and western Europe, where coverage rates for married persons were 26% and 27% higher, respectively. Coverage rates for the separated, divorced or widowed were lower than the rates for the never married, except for persons from South-East and southern Asia, New Zealand and western Europe.

Among the separated, divorced or widowed, Greeks, and persons from the Middle East and from Other southern Europe have the lowest coverage rates. Among the never married, Greeks and New Zealanders have the lowest coverage rates, while among the married, persons born in Greece and the Middle East have the lowest coverage rates.

Self-assessed health status

In the National Health Survey persons were asked to assess their health status as excellent, good, fair or poor.

For the total population, 56% of persons in excellent health have private health insurance, while only 32% of those in poor health are covered (see Table 10.10). Thus, those reporting a less favourable health status were less likely to have private health insurance. Persons from the Middle East and Greece with a self-reported poor health status had the lowest coverage at 17% and 19% respectively. While for most countries a better health status was associated with a higher coverage rate, not every birthplace showed this linear relationship. The pattern for Greeks is similar to a normal curve, while the pattern for New Zealanders is V-shaped with an unusually high peak for those in poor health. New Zealanders are notable in that those in poor health have a higher coverage rate (51%) than those in excellent health (39%). Also, of those in excellent health, only persons born in Italy and Australia have higher coverage rates than New Zealanders in poor health.

Persons from South-East and southern Asia in poor health have higher coverage rates than those with good or fair health, but lower than those with excellent health. Persons born in Greece, Other southern Europe or western Europe who see themselves as in good health have coverage rates higher than persons with the same birthplaces in excellent health.

10.4 Discussion

It is evident from the data presented that private health insurance is not distributed evenly within and between the different ethnic groups and that the likelihood of having

private health insurance varies significantly with age and income as well as with length of residence.

Predictably, variation in private health insurance coverage among the various ethnic groups was quite large. Persons born in India, Italy, western Europe and Australia had the highest coverage (over 45%), while the lowest coverage was among persons from China, Lebanon, Vietnam and New Zealand (under 25%).

The study also shows that longer residence in Australia is related to having higher rates of private health insurance. The rate for people who arrived before 1975 is nearly three times higher than the rate for those who arrived in 1989 and 1990. People who arrived in Australia before 1975 have almost the same coverage rate as Australian-born people (45% compared with 46%).

Those covered by private health insurance tended to have a higher income, be middle-aged and be in better health as assessed by themselves.

Persons of all ethnicities between the ages of 35 and 65 (except Greeks) are more likely to have private health insurance than younger or older persons. Greeks aged between 25 and 34 have the highest coverage rate of all Greeks at 42% (Table 10.6b). For all persons aged 65 years and over, Greeks have the lowest coverage rate.

Coverage by private insurance increases as income rises. Contributor units with a gross weekly income of at least $600 are more likely to have coverage than not have it, with the exception of New Zealanders, Greeks, and people born in Asia or America. New Zealanders and Greeks, even with a unit weekly income of $800 or more, only reach coverage rates of 39% and 44% respectively.

In relation to self-assessed health status, coverage was higher among those reporting excellent and good health (56% and 50% respectively) as opposed to those reporting fair and poor health status (40% and 32% respectively). Only New Zealanders are different—those with a poor health status have a higher coverage rate (57%) than their fellow countrymen in excellent (39%), good (31%) or fair (21%) health. Persons born in South-East and southern Asia with poor health status have a higher coverage rate (38%) than persons with the same birthplace in good (37%) or fair (34%) health, but those in excellent health status still have the highest coverage (45%).

The Health Insurance Survey does not provide any information on health care utilisation rates. Thus it was not possible to establish whether coverage was greater among persons with extensive use of hospital services. The 1989 TQA Research Survey of Health Care and Insurance, which has not been used as a reference for this chapter because of the very low number of overseas-born respondents, 'found that marginally more unhealthy people (48%) had private hospital insurance than people with average or better than average health (44%)' (Willcox 1991, p. 26).

One of Willcox's findings (1991) was that one in five people are either unsure or incorrectly believe that private hospital care is covered under Medicare. Moreover, many people have a very poor understanding of the costs and coverage of private health insurance and how it functions in conjunction with Medicare. If we add to the present findings a relatively short period of residence in Australia and lack of proficiency in English, the conclusion could be drawn that the confusion among recent arrivals from non-English-speaking background about costs and benefits of private health insurance would be even greater.

This study has shown that, for all countries of birth, private health insurance coverage is influenced by sociodemographic characteristics and by length of residence. The nature of the influence varies from one country of birth to another.

Table 10.1: *Data items and selected categories for the 1990 Health Insurance Survey and the 1989–90 National Health Survey*

1990 HEALTH INSURANCE SURVEY	1989–90 NATIONAL HEALTH SURVEY
Country of birth (region):	**Country of birth (region):**
Australia	Australia
Africa	
America	
Asia	
Lebanon	Middle East
India	
China	South-East & southern Asia
Malaysia	
Europe	
Germany	
Greece	Greece
Italy	Italy
The Netherlands	Other southern Europe
Poland	Western Europe
United Kingdom & Ireland	United Kingdom & Ireland
Yugoslavia	Other Europe & USSR
New Zealand	New Zealand
Country of birth (language grouped):	
Australia	Australia
Other English-speaking country	Other English-speaking
Non-English-speaking country	Non-English-speaking country
Year of arrival:	
Before 1975	
1975–1979	Before 1980
1980–1984	1980–1984
1985–1988	1985–1990
1989–1990	
Type of private health insurance (for the majority of the analyses the first two categories of this variable have been combined):	
Hospital and ancillary	Hospital and ancillary
Hospital only	Hospital only
Ancillary only	Ancillary only
Type of cover not known	Type of cover not known
No private health insurance	No private health insurance

(continued)

Table 10.1: *Data items and selected categories for the 1990 Health Insurance Survey and the 1989–90 National Health Survey* (continued)

1990 HEALTH INSURANCE SURVEY	1989–90 NATIONAL HEALTH SURVEY
Reasons for taking private health insurance:	
Choice of doctor	
Allows use of private hospitals	
To provide benefits for ancillary services	
Shorter wait for treatment/concern over public hospital waiting lists	
Security/protection/peace of mind	
Family type:	**Marital status:**
Married couple only	Married and de facto
Married couple plus all combinations of children and relatives	Separated, widowed or divorced
Single person with dependants	
Single person only	
Gross weekly income of income unit:	**Gross personal annual income of respondent:**
Less than $160	Less than $4,999
$160–$239	$5000–$9,999
$240–$399	$10,000–$19,999
$400–$599	$20,000–$29,999
$600–$799	$30,000–$39,999
	$40,000–$49,999
	$50,000 or more
Age:	
15–24 years	15–24 years
25–34 years	25–34 years
35–44 years	35–44 years
45–54 years	45–54 years
55–64 years	55–64 years
65 and over	65 and over
Employment status:	
Employed full-time	Employed
	Not employed, but looking
Not in the labour force	Not in the labour force
	Self-assessed health status:
	Excellent
	Good
	Fair
	Poor

Table 10.2: *Classification structure of country units within minor groups according to ABS (1990)*

1. Southern Europe	
Albania	Italy
Andorra	Malta
Cyprus	Portugal
Gibraltar	San Marino
Greece	Spain
Holy See	Yugoslavia
2. Western Europe	
Austria	Liechtenstein
Belgium	Luxembourg
France	Monaco
German Democratic Republic	The Netherlands
Federal Republic of Germany	Switzerland
3. Middle East	
Bahrain	Oman
Gaza Strip	Qatar
Iran	Saudi Arabia
Iraq	Syria
Israel	Turkey
Jordan	United Arab Emirates
Kuwait	West Bank
Lebanon	Yemen
4. South-East Asia	
Brunei	Myanmar
Cambodia	Philippines
Indonesia	Singapore
Laos	Thailand
Malaysia	Vietnam
5. Southern Asia	
Afghanistan	Maldives
Bangladesh	Nepal
Bhutan	Pakistan
India	Sri Lanka

Table 10.3: *Differences in private health insurance coverage by country/region of birth*

Country/region of birth	Health Insurance Survey			National Health Survey		
	Hosp. & ancil. + hosp. only	Without private health insurance	Total	Hosp. & ancil. + hosp. only	Without private health insurance	Total
	(%)	(%)	('000)	(%)	(%)	('000)
Australia	45.7	50.6	6,209.5	51.7	48.2	8,934.8
Africa	44.1	50.9	69.4			
America	42.4	53.3	70.3			
Asia	26.9	68.1	428.5			
South-East and south Asia				38.7	61.2	330.6
Lebanon	21.0	76.1	41.7			
Middle East				34.8	65.0	146.6
Vietnam	7.3	85.6	55.0			
India	47.0	48.6	31.7			
China	20.2	74.8	56.7			
Malaysia	44.8	52.6	35.9			
Europe	39.8	55.5	1,523.0			
Germany	47.9	46.7	75.1			
Greece	25.9	72.3	95.6	29.1	70.9	148.7
Italy	48.3	48.4	182.8	51.1	48.9	281.9
Malta	42.3	52.0	35.5			
Netherlands	47.0	48.0	62.6			
Poland	29.2	61.9	54.5			
United Kingdom & Ireland	40.2	54.3	762.7	43.6	56.3	1,113.1
Yugoslavia	30.9	65.5	99.2			
Western Europe				1.2	48.8	242.5
Other southern Europe				39.8	60.2	259.2
Other Europe & USSR				42.4	56.9	184.7
New Zealand	22.9	69.8	157.0	32.7	67.3	224.6
Total	**43.1**	**52.8**	**8,490.7**	**49.1**	**50.8**	**12,202.6**

Sources: ABS 1989–90 National Health Survey
ABS 1990 Health Insurance Survey

Table 10.4: *Private health insurance coverage by country of birth (language grouped)*

Country of birth (language grouped)	HIS Hosp. & ancil. + hosp. only	HIS Without private health insurance	NHS Hosp. & ancil. + hosp. only	NHS Without private health insurance	HIS Total	NHS Total
	(%)	(%)	(%)	(%)	('000)	('000)
Australia	45.7	50.6	51.7	48.2	6,209.5	8,934.8
Other English-speaking countries	37.9	56.3	45.0	54.9	975.1	2,065.0
Non-English-speaking countries	34.7	60.9	36.4	63.4	1,306.1	1,202.9

Sources: ABS 1989–90 National Health Survey
ABS 1990 Health Insurance Survey

Table 10.5: *Reasons for having private health insurance coverage by country/region of birth*

Country/region of birth	Reasons for having private health insurance					
	Choice of doctor	Allows use of private hospital	To provide benefits for ancillary service	Shorter wait for treatment/ concern over public hospital waiting lists	Security/ protection /peace of mind	Total ('000)
	(Per cent)[a]					
Australia	19.2	17.6	15.9	12.3	20.0	6,209.5
Africa	18.6	17.1	18.4	14.2	21.9	69.4
America	17.1	16.5	15.7	14.9	19.9	70.3
Asia	9.6	8.8	11.3	7.1	11.9	428.5
Lebanon	11.7	*8.5	11.9	*4.7	9.1	41.7
India	13.9	16.7	16.0	15.3	24.3	31.7
China	7.7	6.4	*6.0	*3.3	10.4	56.7
Malaysia	18.5	16.9	17.9	11.3	18.2	35.9
Europe	14.7	14.9	14.8	13.1	18.0	1,523.0
Germany	16.1	16.6	20.2	12.4	21.7	75.1
Greece	11.5	11.6	10.3	8.5	12.3	95.6
Italy	18.1	18.4	11.8	18.8	21.3	182.8
Malta	20.5	15.9	15.4	17.0	23.9	35.5
Netherlands	15.8	16.0	16.3	17.7	19.4	62.6
Poland	10.0	9.8	12.8	10.1	15.9	54.5
United Kingdom & Ireland	14.7	15.1	16.3	12.5	17.3	762.7
Yugoslavia	13.8	13.3	12.2	10.1	15.9	99.2
New Zealand	9.3	8.7	11.4	7.6	12.8	157.0
Total	**17.6**	**16.4**	**15.4**	**12.1**	**19.1**	**8,490.7**

* Subject to sampling variability between 25% and 50%

(a) Percentages do not add up to 100 because not all reasons have been included.

Source: ABS 1990 Health Insurance Survey

Table 10.6a: *Private health insurance coverage by age by country/region of birth (ABS 1990 Health Insurance Survey)*

Country/ region of birth	Age											
	15–24		25–34		35–44		45–54		55–64		65 and over	
	Hosp. & ancil. + hosp. only	Without private health insurance	Hosp. & ancil. + hosp. only	Without private health insurance	Hosp. & ancil. + hosp. only	Without private health insurance	Hosp. & ancil. + hosp. only	Without private health insurance	Hosp. & ancil. + hosp. only	Without private health insurance	Hosp. & ancil. + hosp. only	Without private health insurance
	(Per cent)											
Australia	31.0	65.4	44.1	50.9	54.6	40.7	62.4	33.9	57.0	39.2	40.8	57.5
Africa	*19.2	75.2	53.5	42.3	47.7	48.5	52.4	39.0	55.8	*36.7	29.0	68.9
America	*30.4	69.6	28.0	71.4	45.4	47.3	66.0	*29.3	*55.9	*38.3	*41.9	*47.7
Asia	19.9	71.9	19.2	76.6	37.1	58.2	34.8	56.6	29.5	66.3	21.8	77.8
Europe	22.9	70.9	34.5	60.0	48.0	47.0	49.1	45.2	40.2	54.5	32.2	65.5
Germany	*40.7	*55.2	46.4	45.9	54.1	39.9	55.3	37.5	41.0	53.7	36.7	62.6
Greece	**	*86.0	*28.3	70.3	32.7	66.6	24.9	74.1	27.7	68.4	*16.4	81.3
Italy	*22.3	*68.1	53.3	44.9	63.4	36.2	58.4	36.7	40.3	54.2	35.9	62.5
UK & Ireland	22.5	70.1	31.8	62.9	47.9	45.5	53.5	39.8	46.3	47.3	33.4	64.0
New Zealand	*6.9	85.8	*18.6	75.6	28.0	62.0	42.1	49.4	34.8	57.1	31.9	63.8
Total	**29.5**	**66.5**	**40.1**	**54.9**	**51.1**	**44.0**	**56.9**	**38.4**	**51.6**	**44.5**	**38.0**	**60.1**

Source: ABS 1990 Health Insurance Survey
* Subject to sampling variability between 25% and 50%
** Data suppressed due to high relative standard error

Table 10.6b: *Private health insurance coverage by age by country/region of birth (ABS 1989–90 National Health Survey)*

Country/region of birth	Age											
	15–24		25–34		35–44		45–54		55–64		65 and over	
	Hosp. & ancil. + hosp. only	Without private health insurance	Hosp. & ancil. + hosp. only	Without private health insurance	Hosp. & ancil. + hosp. only	Without private health insurance	Hosp. & ancil. + hosp. only	Without private health insurance	Hosp. & ancil. + hosp. only	Without private health insurance	Hosp. & ancil. + hosp. only	Without private health insurance
	(Per cent)											
Australia	37.6	62.2	51.1	48.8	61.5	38.5	64.6	35.3	60.2	39.8	42.5	57.5
SE & S Asia	24.7	74.3	32.1	67.9	39.2	60.8	59.0	41.0	45.3	54.7	42.5	57.5
Middle East	14.9	85.1	32.2	66.7	49.3	50.7	33.0	67.0	33.1	66.9	31.3	68.7
Greece	30.0	70.0	41.6	58.4	30.5	69.5	29.6	70.4	25.2	74.8	20.3	79.7
Italy	36.8	63.2	61.1	38.9	65.0	35.0	59.3	40.7	47.1	52.9	25.8	74.2
UK & Ireland	26.4	72.7	40.6	59.2	50.4	49.6	57.5	42.5	47.2	52.6	31.1	69.1
W Europe	21.2	78.8	42.3	57.7	60.4	39.6	62.3	37.7	49.1	50.9	37.3	62.7
Other S Europe	28.9	71.1	34.8	65.2	40.3	59.7	46.9	53.1	43.3	56.7	29.9	70.1
Other Europe & USSR	42.9	57.1	30.7	67.1	49.2	49.4	53.5	46.5	48.5	51.5	32.8	66.6
New Zealand	15.6	84.4	25.5	74.5	36.7	63.3	54.4	45.6	53.0	47.0	46.5	53.5
Total	**36.2**	**63.6**	**47.6**	**52.3**	**57.1**	**42.8**	**60.4**	**39.5**	**55.1**	**44.9**	**39.7**	**60.3**

Source: ABS 1989–90 National Health Survey

* Subject to sampling variability between 25% and 50%

** Data suppressed due to high relative standard error

Table 10.7a: *Private health insurance coverage by employment status by country/region of birth (ABS 1990 Health Insurance Survey)*

Country/region of birth	Employment status			
	Employed full time		Not in the labourforce	
	Hosp. & ancil. + hosp. only	Without private health insurance	Hosp. & ancil. + hosp. only	Without private health insurance
	(Per cent)			
Australia	53.4	42.0	35.3	62.6
Africa	55.0	39.6	28.5	66.9
America	47.7	48.3	33.3	59.3
Asia	33.6	59.5	19.3	79.5
Lebanon	36.8	60.5	**	95.0
Vietnam	*9.6	80.0	**	95.1
India	53.9	39.2	*35.6	64.4
China	24.9	68.8	*16.7	83.3
Malaysia	51.1	45.6	*38.1	59.0
Europe	49.7	44.3	26.7	70.4
Germany	61.6	32.2	24.2	73.8
Greece	31.3	67.2	16.3	81.6
Italy	63.2	33.2	27.6	69.8
Malta	55.0	36.9	*19.0	78.4
Netherlands	58.4	34.9	30.6	66.7
Poland	38.9	41.8	24.3	71.3
United Kingdom & Ireland	47.9	45.4	29.5	67.2
Yugoslavia	39.1	57.2	21.3	75.9
New Zealand	24.5	67.3	22.3	72.6
Total	**51.1**	**43.9**	**32.3**	**65.5**

Source: ABS 1990 Health Insurance Survey

* Subject to sampling variability between 25% and 50%

** Data suppressed due to high relative standard error

Table 10.7b: *Private health insurance coverage by employment status by country/region of birth (ABS 1989–90 Health Insurance Survey)*

Country/region of birth	Employment status					
	Employed		Not in the labourforce		Not employed but looking	
	Hosp. & ancil. + hosp. only	Without private health insurance	Hosp. & ancil. + hosp. only	Without private health insurance	Hosp. & ancil. + hosp. only	Without private health insurance
	(Per cent)					
Australia	58.0	42.0	48.6	51.4	25.8	74.2
SE & S Asia	44.8	55.2	26.0	73.2	16.0	84.0
Middle East	50.7	49.0	23.1	76.4	*7.1	92.9
Greece	39.0	61.0	18.6	81.4	15.8	84.2
Italy	67.3	32.7	40.1	59.9	37.4	62.6
W Europe	61.4	38.6	42.5	57.5	20.0	80.0
UK & Ireland	53.2	46.7	34.2	65.7	18.8	81.2
Other S Europe	47.4	52.6	31.2	68.8	21.3	78.7
Other Europe & USSR	53.4	46.1	40.3	59.7	18.4	77.4
New Zealand	35.1	64.9	27.5	72.5	11.2	88.8
Total	**55.9**	**44.0**	**43.6**	**56.3**	**23.3**	**76.6**

Source: ABS 1989–90 National Health Survey

* Subject to sampling variability between 25% and 50%

Table 10.8a: *Private health insurance coverage by gross weekly income per income unit by country/region of birth*

Country/region of birth	Gross weekly income											
	Less than $160		$160 – $239		$240 – $399		$400 – $599		$600 – $799		$800 or more	
	Hosp. & ancil. + hosp. only	Without private health insurance	Hosp. & ancil. + hosp. only	Without private health insurance	Hosp. & ancil. + hosp. only	Without private health insurance	Hosp. & ancil. + hosp. only	Without private health insurance	Hosp. & ancil. + hosp. only	Without private health insurance	Hosp. & ancil. + hosp. only	Without private health insurance
	(Per cent)											
Australia	22.3	75.4	28.5	68.6	35.1	61.4	51.4	44.2	61.8	33.4	73.2	22.8
Africa	*17.0	83.0	*31.9	66.1	*26.0	67.8	52.9	43.9	58.3	*27.6	64.0	29.1
America	*28.4	66.3	*14.4	80.9	*27.7	65.1	33.7	64.6	46.8	50.6	74.9	21.0
Asia	14.7	82.1	16.0	80.9	13.3	82.5	30.1	61.6	40.2	55.0	56.4	37.5
Europe	17.5	80.1	18.3	79.4	30.9	63.6	43.1	52.5	51.9	42.1	65.3	28.7
Greece	*8.6	91.4	*12.0	86.4	21.7	76.0	34.9	63.0	30.7	66.7	44.2	55.8
Italy	20.0	78.1	22.6	76.0	43.7	50.5	56.5	41.4	68.3	27.1	76.2	20.4
UK & Ireland	19.1	78.1	18.3	78.8	30.1	63.5	41.8	52.6	53.2	39.9	62.8	31.1
New Zealand	*5.5	87.1	*10.8	86.4	17.9	78.4	19.9	71.9	24.0	67.4	38.8	51.4
Total	20.6	76.9	25.8	71.4	32.7	63.4	48.1	47.3	57.7	37.1	69.7	25.5

Source: ABS 1990 Health Insurance Survey

* Subject to sampling variability between 25% and 50%

Table 10.8b: *Private health insurance coverage by gross annual income of respondent by country/region of birth*

Country/region of birth	Gross annual income													
	0 – $4,999		$5,000 – $9,999		$10,000–$19,999		$20,000–$29,999		$30,000–$39,999		$40,000–$49,999		$50,000 or more	
	Hosp. & ancil. + hosp. only	Without private health insurance	Hosp. & ancil. + hosp. only	Without private health insurance	Hosp. & ancil. + hosp. only	Without private health insurance	Hosp. & ancil. + hosp. only	Without private health insurance	Hosp. & ancil. + hosp. only	Without private health insurance	Hosp. & ancil. + hosp. only	Without private health insurance	Hosp. & ancil. + hosp. only	Without private health insurance
	Per cent													
Australia	56.6	43.3	32.1	67.9	45.6	54.4	57.0	42.9	68.4	31.5	72.4	27.5	79.0	21.0
SE & S Asia	32.2	66.3	23.0	77.0	31.6	68.4	45.7	54.3	63.3	36.7	81.6	18.4	60.3	39.7
Middle East	20.3	78.6	*9.7	90.3	31.4	68.0	48.4	51.6	70.7	29.3	47.9	52.1	82.3	*17.7
Greece	31.7	68.3	11.6	88.4	36.5	63.5	33.5	66.5	57.8	42.2	52.8	47.2	43.9	56.1
Italy	53.6	46.4	22.3	77.7	57.7	42.3	65.9	34.1	78.6	21.4	79.6	20.4	79.8	20.2
Other S Europe	42.4	57.6	18.7	81.3	38.6	61.4	48.9	51.1	49.8	50.2	59.4	40.6	47.5	52.5
UK & Ireland	46.9	52.7	21.6	78.4	39.3	60.4	51.7	48.3	57.9	41.7	68.8	31.2	72.1	27.9
W Europe	47.7	52.3	26.4	73.6	50.9	49.1	54.5	45.5	69.9	30.1	74.5	25.5	70.3	29.7
Other Europe & USSR	40.1	55.8	24.5	75.0	46.9	51.5	54.1	45.9	69.6	30.4	46.5	53.5	69.5	57.9
New Zealand	20.8	79.2	29.4	70.6	23.3	76.7	27.3	72.7	41.9	58.1	44.2	55.8	63.4	36.6
Total	52.3	47.5	29.2	70.8	43.9	56.0	54.6	45.3	66.0	33.9	70.7	29.3	76.3	23.7

Source: ABS 1989–90 National Health Survey

* Subject to sampling variability between 25% and 50%

Table 10.9a: *Private health insurance coverage by family composition by country/region of birth*

Country/region of birth	Family composition							
	Single only		Single with dependants		Married couple only		Married couple with dependent children	
	Hosp. & ancil. + hosp. only	Without private health insurance	Hosp. & ancil. + hosp. only	Without private health insurance	Hosp. & ancil. + hosp. only	Without private health insurance	Hosp. & ancil. + hosp. only	Without private health insurance
	(Per cent)							
Australia	37.3	59.1	22.8	72.6	57.0	40.2	61.4	34.1
Africa	32.7	64.6	*0.0	*66.3	47.3	42.2	58.0	37.8
America	34.8	61.4	*42.7	*57.3	50.9	46.0	49.3	44.2
Asia	19.8	74.8	13.8	81.9	34.6	62.2	35.2	59.3
China	*10.9	84.6	*0.0	*53.7	*28.5	65.6	39.3	58.6
India	40.9	55.4	*0.0	**	51.2	*47.0	50.1	42.7
Europe	30.7	64.6	19.4	75.8	41.0	54.9	52.6	41.9
Germany	40.3	57.4	*22.7	*64.3	45.0	47.8	65.9	26.9
Greece	19.0	81.0	**	*88.9	23.2	74.3	33.2	64.1
Italy	30.6	64.4	*0.0	*87.4	45.3	51.3	64.0	33.5
United Kingdom & Ireland	31.8	62.5	19.4	75.9	42.7	52.8	54.2	39.4
Yugoslavia	23.0	73.6	*0.0	*70.8	33.6	64.5	37.8	58.1
New Zealand	20.7	73.4	*11.2	71.1	28.0	66.3	26.9	64.2
Total	**35.2**	**61.0**	**21.5**	**73.6**	**51.3**	**45.0**	**56.7**	**38.4**

Source: ABS 1990 Health Insurance Survey

* Subject to sampling variability between 25% and 50%

** Data suppressed due to high relative standard error

Table 10.9b: *Private health insurance coverage by marital status by country/region of birth*

Country/region of birth	Marital status					
	Never married		Married and de facto		Separated, divorced, widowed	
	Hosp. & ancil. + hosp. only	Without private health insurance	Hosp. & ancil. + hosp. only	Without private health insurance	Hosp. & ancil. + hosp. only	Without private health insurance
	(Per cent)					
Australia	39.7	60.2	60.3	39.7	34.7	65.3
SE and S Asia	25.2	74.1	44.1	55.9	31.7	68.3
Middle East	31.9	68.1	37.2	62.5	16.8	83.2
Greece	*16.9	83.1	31.8	68.2	15.1	84.9
Italy	39.9	60.1	55.2	44.8	27.5	72.5
Other S Europe	26.7	73.3	44.4	55.6	18.4	81.6
UK & Ireland	30.3	69.2	49.3	50.6	28.9	71.1
W Europe	28.5	71.5	56.3	43.7	35.7	64.3
Other Europe & USSR	38.4	61.6	48.0	51.4	24.0	75.0
New Zealand	15.1	84.9	40.5	59.5	31.7	68.3
Total	**37.8**	**62.0**	**56.2**	**43.7**	**32.9**	**67.1**

Source: ABS 1989–90 National Health Survey

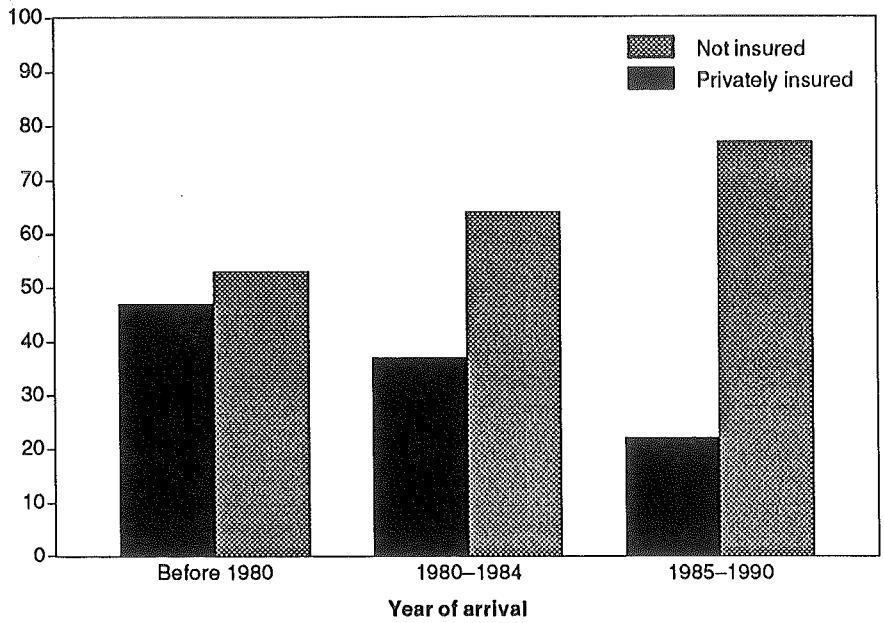
* Subject to sampling variability between 25% and 50%

Table 10.10: *Private health insurance coverage by self-assessed health status by country/region of birth*

Country/region of birth	Self-assessed health status							
	Excellent		Good		Fair		Poor	
	Hosp. & ancil. + hosp. only	Without private health insurance	Hosp. & ancil. + hosp. only	Without private health nsurance	Hosp. & ancil. + hosp. only	Without private health insurance	Hosp. & ancil. + hosp. only	Without private health insurance
	(Per cent)							
Australia	59.2	40.7	52.5	47.5	42.3	57.6	34.9	64.9
South-East and south Asia	45.3	54.2	37.0	63.0	33.7	66.3	38.4	61.6
Middle East	49.5	49.1	33.5	66.5	31.4	68.6	18.5	81.5
Greece	24.9	75.1	32.6	67.4	31.8	68.2	16.9	83.1
Italy	71.3	28.7	54.8	45.2	41.4	58.6	35.3	64.7
Other S Europe	44.9	55.1	45.1	54.9	30.1	69.9	23.5	76.5
United Kingdom & Ireland	47.6	52.0	45.2	54.8	36.5	63.5	28.0	72.0
Western Europe	48.7	51.3	58.2	41.8	43.4	56.6	25.6	74.4
Other Europe & USSR	50.2	49.8	45.9	52.6	36.0	64.0	28.9	71.1
New Zealand	38.8	61.2	30.7	69.3	20.7	79.3	50.7	49.3
Total	**56.1**	**43.7**	**50.0**	**49.9**	**40.4**	**59.5**	**32.1**	**67.8**

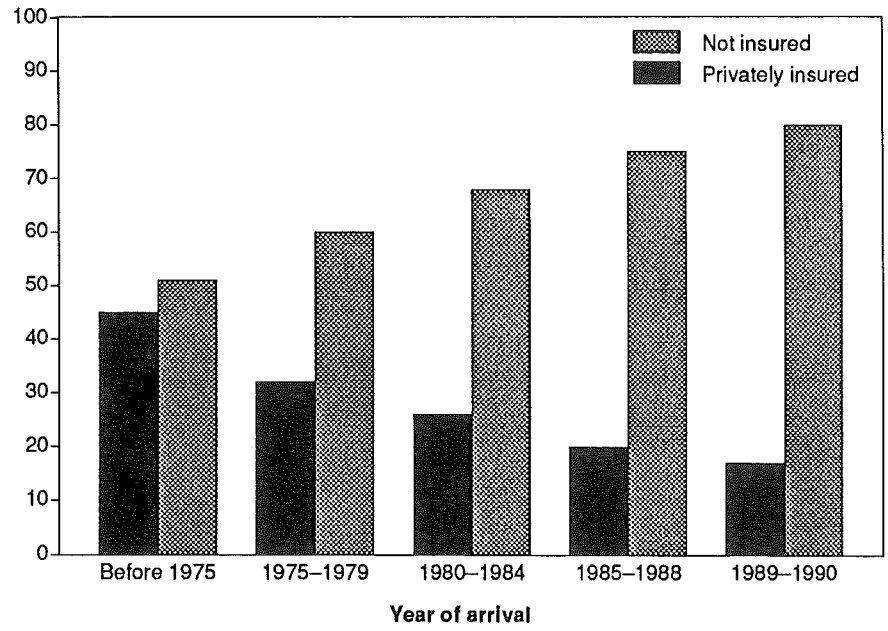
Source: ABS 1989–90 National Health Survey

Figure 10.1a: *Percentage of persons with privte health insurance by year of arrival in Australia*



Source: Derived from ABS 1989–90 National Health Survey

Figure 10.1b: *Percentage of persons with privte health insurance by year of arrival in Australia*



Source: Derived from ABS 1990 Health Insurance Survey

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11 Conclusions

Previous studies of the health of immigrants have focused on one or more specific ethnic groups or on one or more related health aspects; there has been no systematic study of the health of all ethnic groups.

This report was commissioned in an attempt to fill that gap. However, the attempt could never have been completely successful. The first major reason for this is technical. Much of the material presented relates to migrants born in geographical groupings of countries of birth. In turn, much of this grouping was necessary because of small numbers of subjects, even in the largest sample surveys. On other occasions the grouping was contained in the survey data, and use of different groupings in different surveys has meant that it has not been possible to use the same groupings throughout.

There are a number of possible remedies for this. Most of them would require additional expenditure and would need to be assessed against other priorities. They include increasing sizes in sample surveys, or use of different sampling fractions in different localities, so that populations of special interest are sampled more frequently.

One remedy which would have minimal cost is the use of standard classifications; use of the Australian Standard Classification of Countries for Social Statistics in all social surveys would maximise the usefulness of the information that is collected, and in particular its comparability with information from other surveys. Those planning surveys should be aware that use of standard classification can actually reduce their costs; the necessary research and preparation has already been done.

The difficulty in measuring ethnicity has been referred to in Chapter 3. Even when a standard classification is used, a single country of birth or a standard grouping of countries does not always identify a homogeneous ethnic group. Those planning surveys may need to collect additional information to identify members of individual ethnic groups.

Where birthplace is all that is available, it must be remembered that there can be heterogeneity within birthplace groups, and averages or proportions often disguise the diversity within them. It can be important to examine entire distributions.

The second major reason for incomplete coverage in this review is lack of data. Lack of any data, or of national data, in key subject areas has meant that this report cannot give a complete description of health in ethnic groups. The most important lack is of data on mental health. The findings on hospital inpatient services relate to NSW only. We have data on why people have private health insurance but not on why they do not have it. These deficiencies of data are, of course, not specific to ethnic groups, but relate to all Australians.

There are also no data on health of second generation migrants and if this gap is to be filled surveys must collect data on birthplace of parents.

It was not possible, in compiling this report, to examine the quality of the data, either as it related to the indicator of ethnicity, to other variables of major interest (e.g. whether a survey subject did indeed suffer from a self-reported illness), or to other variables used in the analysis. Readers seeking further information on these aspects should consult the original references.

One of the recommendations of the 1988 National Ethnic Health Policy Conference was the 'urgent development of a national policy, plan and resource base for ethnic health'. This report has described the present state of health of Australia's ethnic communities, and identified areas where it can be improved. It is now the task of the policy makers to translate these findings into action.

Abbreviations

ABS	Australian Bureau of Statistics
AIH	Australian Institute of Health (now the Australian Institute of Health and Welfare)
AIHW	Australian Institute of Health and Welfare
AIMA	Australian Institute of Multicultural Affairs
BMI	Body mass index
CHD	Coronary heart disease
DBP	Diastolic blood pressure
ESB	English-speaking background
HDL	High density lipoprotein
HIS	Health Insurance Survey
NESB	Non-English-speaking background
NHF	National Heart Foundation
NHS	National Health Survey
OMA	Office of Multicultural Affairs
RFPS	Risk Factor Prevalence Survey
SBP	Systolic blood pressure
SMR	Standardised mortality ratio
TC	Total cholesterol
WHO	World Health Organization